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INDUSTRIAL HEALTH—A MEDICAL OPPORTUNITY.*

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Practicing physicians in this country, by training and long custom, consider that the curative and preventive health needs of the population are best controlled by two agencies—public health administration and the private practice of medicine. They have seen no impelling reason why medical service to industry should not, in most cases, conform pretty largely to this basic pattern. They realize that the range of medical activity which falls under one or the other of these two important phases of industrial health is so widespread and frequently of such special character as to require the services of physicians in a number of categories of public and private employment. It has seemed to the practicing physician that none of these agencies will ever arrive at the position which will enable anyone of them singly to shoulder the entire burden of the health conservation of workers.

It is convenient, if not entirely accurate, therefore, to classify physicians in industry according to whether preventive or remedial services preponderate in their ordinary activities, since under these headings occur most of the procedures from which individual workmen are likely to draw direct and immediate health benefits. At one end of the scale is the medically trained industrial hygienist, most often associated with public health administration. He is interested exclusively in the prevention of industrial disability and uses this interest, moreover, as an important avenue through which many of the problems of adult hygiene can be solved. His work affects groups rather than the personal hygiene problems of individuals. Next there is the industrial physician engaged largely in the practice of preventive medicine and surgery within industry itself but whose functions include also the treatment of accidents and diseases of occupational origin. As between the plant medical officer and the public health official, objectives differ only in the degree of detachment from conditions under observation and the amount of sustained personal interest which it is possible to develop in the health problems of the individual workers. Then there is the private practitioner, specialist or otherwise. Not infrequently he has refused to undertake any form of industrial medical activity. Much more commonly, however, he has been called upon by employers or insurance organizations to treat individual cases of industrial injury or disease. Up to the present time he has almost entirely overlooked industrial hygiene as a profitable extension of his own medical activity and as a means for positive contributions to the improved physical welfare of wage earners. It is no difficult concession to make, then, that physicians in each of these classifications have indispensable functions to perform for industry, that they should supplement and support each other and freely acknowledge their interdependence. The actual amount of medical activity which industry needs and which these varying types of physicians will be called upon to perform will vary considerably in keeping with local circumstances. What is of greater moment is that as industrial medical activity expands, the work of physicians in each of these categories is certain to increase rather than otherwise.

In this connection it is interesting to classify some of the reasons why the private physician has neglected to participate more fully in accident and disease prevention and in the promotion of health programs for industrial workers. This attitude proceeds naturally from the way industrial medicine and surgery developed. At the outset interest was almost

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entirely centered upon problems of surgical repair and rehabilitation. A much more potent reason is that medical education has not been at all helpful in developing a real appreciation of the effects of occupation on health and the best means for establishing control. The amount of time necessarily spent in medical schools on individualized case study and management has prevented the assignment of sufficient attention to the principles of health conservation of groups and to the recognition and arrest of incipient disease which constitute, to a very considerable extent, the principal motivations behind the whole field of industrial health. Many physicians have intentionally withheld cooperation from the industrial health movement because of a real concern that adequate standards of medical practice could not be successfully transferred into the industrial picture because of industry's unwillingness or inability to support them. Physicians have had other misgivings about industrial medicine, such as the lack of essential qualifications of many who have undertaken this type of activity, its not infrequent status as exploited dispensary work under conditions where employer interest is too commonly interpreted as the proper function of an industrial medical service, and the methods used by some physicians to compete unfairly, not only in industrial practice but in private practice through industrial connections. Another large contributor to distaste for certain phases of industrial practice relates to the varying nature of workmen's compensation administration, largely centering in the absence of qualified medical representation, in or advisory to, compensation commissions, the illogical limitations which have been set up in relation to medical and hospital care for industrial disability and in respect to free choice of physician.

Is it safe to assume, then, that in the light of these unsatisfactory experiences the practicing physician will be willing to improve and expand his participation in industrial medical activity? Such an expectation at the present time seems entirely justified. In the first place, the growing interest of the worker and his labor organizations is compelling industry, the government, and the medical profession to investigate and recognize the important effects which occupation can have on physical well-being. The extension of workmen's compensation benefits in all but two states, particularly the assignment of benefits for occupation disease, is a most potent factor for the rapid expansion of professional interest. Johnstone[1] has recently stated:

"Today twenty-two states make provision for all or some occupational diseases. Ominous signs indicate their rapid inclusion by the remaining states. After such enactments the responsibility shifts from a few to all physicians. The existing system of consigning the sudden fracture or laceration to the plant or company physician will continue. In such cases the causative factors are rarely in doubt. But the workman with insidious disease will consult his family or neighborhood physician on whom will be imposed the duty of determining whether the patient's condition is occupational or non-occupational in origin. In every city, hamlet, mining center or farming district a workman's ill health will become a medico-legal problem."

Lately recommendations of unusual importance regarding physical examinations have been issued by the Wisconsin Industrial Commission, under the conviction that such practices are as great a factor in the maintenance and upbuilding of the health of workers as engineering control over specific industrial exposures. It takes no unusual insight to realize that if this practice spreads many more physicians will be called upon to apply the principles of preventive medicine in industry.

Furthermore, present day technical development in industry is enormous. Health hazards multiply so rapidly as to leave distinct gaps between recognition of the causative agency and the perfection of medical and engineering methods designed to cope with them. Progress will occur only as this lag is overcome by infusing all available knowledge about occupational health exposures into the practicing medical profession as promptly as possible. The rapid increase in governmental facilities, both federal and state, for investigation and control of occupational health exposures will assist greatly in this respect. All these agencies—manufacturers' associations, trade unions, insurance carriers, compensation and other governmental agencies—have great interest in establishing the social and humanitarian values of control over industrial accident and disease. Medical organization, therefore, has a constructive influence to exert on industrial medical standards, since no other agency is in good position to evaluate medical procedure or facilitate its direct application into actual practice. To accept leadership in this field is directly in keeping with medical tradition in other specialties.

1. Johnstone, Dr. R. T. The Teaching of Occupational Diseases. *J. A. M. A.*, 114:546 (February 17), 1940.

Added to these fundamental reasons for professional interest in industrial health are related problems of utmost importance associated with national defense. A recent editorial[2] in The Journal of the American Medical Association has stated:

"Modern warfare depends on industrial production. The skilled worker becomes of importance equal to that of the man under arms; his indispensability grows as it becomes difficult or impossible to replace him. Shortages are said to exist now in certain classifications of experienced craftsmen. The problem then is not solely one of educating new workers, since long periods of apprenticeship are necessary to acquire dependable ability. More important is the task of guarding the existing supply of competent and skilled workers against preventable disability."

In relation to national defense, then, the real importance of industrial health assumes proper proportion. It is satisfying to realize that the medical profession will be much better prepared than it was twenty-five years ago to shoulder these added responsibilities, both under the pressure of preparedness as well as a continuing activity.

After consideration of these and other factors, the Council on Industrial Health of the American Medical Association has stated its belief that standards of medical service in industry must be raised and safeguarded both as to scope and adequacy. To accomplish these purposes it relies primarily on medical self-discipline and education. We have, therefore, attempted to visualize a practical working arrangement which will establish an industrial health committee in every county medical society where the degree of industrialization seems to warrant it. The membership, it is hoped, should contain representation from the fields of private practice, industrial practice, and from the local public health agency. Committees such as these ought to be of genuine value, since it is in the county medical societies where acute problems of industrial practice are encountered and can be directly dealt with. We believe that through some such mechanism much of the friction which has on occasion characterized medical relationships in industry will disappear. We hope that herein will lie at least a partial solution for the small plant employer and his employees interested in deriving benefits from advances in industrial hygiene but who, in the past, have found themselves unprepared or unable to do so.

2. Editorial. Industrial Health and National Defense. *J. A. M. A.*, 115:47 (July 6), 1940.

A program has been developed for these committees which will coordinate local resources for general or special industrial health activity. Competent sources of information about the character of local industrial operations should be established and the important health problems of each, and education should be concentrated upon these local problems. The activities of other community organizations interested in industrial health problems should be investigated in order to determine how they may be in better position under medical leadership to contribute to the physical betterment of the workers and without duplication of effort. There will be many opportunities to promote better professional education and to acquaint the general public with the accomplishments in industrial medical practice and the intention of the whole medical profession to elevate standards in this field. Interesting contributions along these lines of procedure have already been made by county societies.

These local committees will act under the guidance of committees on industrial health in state medical associations, the membership of which again might well contain representation from the three principal components mentioned above. A platform has been suggested for these state committees as follows:

1. To develop on the part of all physicians a good understanding of the proper functions of medical organization in industry.
2. To train physicians to recognize and report occupational diseases promptly.
3. To train industry and labor to the value of industrial health conservation.
4. To elevate medical standards under workmen's compensation.
5. To scrutinize all social legislation affecting the health of industrial workers.
6. To clarify relationships between industrial and private practitioners.
7. To improve relationships between physicians and insurance carriers.
8. To establish working relationships with all state agencies interested in industrial health.
9. To extend as far as possible activities of this same description into county medical societies.

Finally, to take advantage of the structure of our medical organization, arrangements have been made for the interchange of information between the local and state committees and the Council on Industrial Health of the American Medical Association, the general effect of which should be to hasten the reali-

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zation of our program and to facilitate the training of physicians.

Certainly the health needs of industry represent a very considerable opportunity for medical achievement open to qualified physicians on the basis of personal initiative. The field, in fact, is largely unexplored. McCord,[3] as early as 1932, stated the case well in the following words:

"Adequate industrial medicine and sanitation is now applied to not more than 4 per cent of this country's industries. No less than 5,000 factories and mercantile establishments in the United States are of such size as to warrant the full time services of one or more well-trained and well-paid physicians. This number does not include as 'factories' such enterprises as mining, transportation, forestry industries, communication, public service, banking and education. Some doubt may exist that the physician in a mining community, serving the entire population, or the railroad surgeon, doing only traumatic surgery, should be classed as industrial physicians. However, if it may be agreed that such borderline activities should be so recognized, it is reasonable to believe that no less than 12,000 physicians may advantageously be utilized in this branch of medicine. The term 'advantageously' as just used embraces the interests of the worker, his employer, the industrial physician, and the medical profession as a whole. Fifty-four million dollars, the approximate sum annually paid as salary for this potential group, is but a small fraction of the monetary savings that their highly qualified services may effect in industry. If it is agreed that a prime function of the medical profession is to apply to the public those health and life-conserving measures proved by scientific endeavor to be efficacious, it must be recognized that the organization and requirements of industry afford one of the few sustained opportunities for the legitimate exigesis of medicine to adult groups."

3. McCord, Carey P. The Economics of Industrial Medicine. *J. A. M. A.*, 98:1237 (April 9), 1932.

The health needs of industry are crystallizing and a high grade of medical leadership is demanded. Major reforms are needed in the industrial medical field and they can be accomplished. The medical profession as a whole must properly orientate itself in this vast field. To do so the objectives and accomplishments of all interested agencies in medicine and outside of it must be known. There has too often been failure to bring this information to the practicing physician in the past, a failure which must be recognized and surmounted if the full scope of professional development in industrial health is to be attained.

ONE HUNDRED BLOOD CULTURES BEFORE AND AFTER TONSILLECTOMY.

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Blood culture studies following tonsillectomies have been made by numerous workers, but, until the study made by Southgate and Flake[1] in 1938, carefully controlled series were not reported. Because of this, there is great variation in the reports of the various workers, ranging from as many as sixteen positive cultures in fifty-one cases (Fischer and Gottdenker)[2] to none in seventy-eight cases as reported by Rubin *et al.*[3]

In Southgate and Flake's excellently controlled series there were seven positive cultures found in twenty-three cases, all of which were considered contaminants by these workers.

The following study was made in an attempt to clarify the picture. The technique as outlined by Southgate and Flake was closely followed.

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TECHNIQUE

1. A pre-operative blood culture was made on each case just after ether anesthesia was induced and a second culture was made between fifteen to twenty minutes after the completion of the operation.

2. Seven to ten cc. of blood was withdrawn for each culture. Venipuncture was performed under strictly aseptic technique after preparation of the skin with iodine.

3. The blood was injected into a tube of sterile Kracke's media and then incubated at 37 C. for ten days.

4. The cultures were opened on the third, sixth, and tenth days post-operatively for preparation of smears and subculture, if indicated. The latter was made on blood agar plates if the smear was found positive after intensive study.

TABLE I—ANALYSIS OF RESULTS

CASE NO.	INITIALS OF PT.	RACE	AGE	OPERATION	PRE-OPERATIVE CULTURE	POST-OPERATIVE CULTURE	SURGEON
1.	H.O.	C	4½	T&A	Negative	Negative	Specialist
2.	E.S.	C	8	T&A	"	"	Interne
3.	R.S.	C	4	T&A	"	"	Specialist
4.	E.W.	C	11	T&A	"	"	Interne
5.	D.M.	C	4½	T&A	"	"	Specialist
6.	Y.B.	C	7	T&A	Diplococcus mucosus on 1st opening	"	Interne
7.	M.T.	C	12	T&A	Negative	"	Specialist
8.	L.L.	C	4½	T&A; Circ.	"	"	Specialist & Interne
9.	A.H.	W	9	T&A	"	"	Specialist
10.	E.E.	W	9	T&A	Strep. Non-Hemolyticus (Type gamma) on 1st opening	Strep. Non-Hemolyticus (Type gamma) 1st opening	Interne
11.	V.S.	W	6	T&A	Diplococcus mucosus on 2nd opening	Negative	Specialist
12.	A.W.	W	11	T&A	Negative	"	Interne
13.	S.C.	C	6	T&A	Saprophytic gram negative capsulated bacillus on 1st opening	"	Specialist
14.	M.W.	C	9	T&A	Negative	"	Interne
15.	S.B.	C	9	T&A	"	"	Specialist
16.	M.Q.	C	9	T&A	"	"	Interne
17.	S.T.	C	7	T&A	"	Diplococcus mucosus on 1st opening	Specialist
18.	W.T.	C	10	T&A; Circ.	"	Negative	Specialist & Interne
19.	H.W.	C	5	T&A; Circ.	"	"	Specialist & Interne
20.	W.W.	C	9	T&A; Circ.	"	"	Specialist & Interne
21.	G.C.	W	7	T&A	"	"	Specialist
22.	E.C.	W	10	T&A	"	"	Interne
23.	R.O.	W	2	T&A	Diplococcus mucosus on 3rd opening	"	Specialist
24.	S.C.	W	7	T&A	Negative	"	Interne
25.	M.C.	W	7	T&A	"	"	Specialist
26.	J.T.	W	7	T&A	"	Saprophytic gram neg., curved thick rod, 2nd opening	Interne
27.	E.T.	C	11	T&A	"	Diplococcus mucosus on 2nd opening	Specialist
28.	C.C.	C	7	T&A	"	Negative	Interne
29.	E.C.	C	9	T&A	"	"	Specialist
30.	M.C.	C	7	T&A	"	Diplococcus mucosus on 1st opening	Interne
31.	E.F.	W	3	T&A	"	Negative	Specialist
32.	P.K.	W	6	T&A	"	"	Interne
33.	R.K.	W	6	T&A	"	"	Specialist
34.	I.E.	W	6	T&A	"	"	Interne
35.	J.C.	W	9	T&A	"	Diplococcus mucosus on 2nd opening	Specialist
36.	F.C.	W	3	T&A; Circ.	"	Negative	Specialist & Interne
37.	R.F.	C	7	T&A	"	"	Specialist
38.	D.M.	C	10	T&A	"	"	Interne
39.	E.G.	C	8	T&A	"	"	Specialist
40.	L.F.	C	7	T&A	"	"	Interne
41.	H.M.	C	10	T&A	"	"	Specialist
42.	W.B.	C	11	T&A	"	"	Specialist
43.	J.S.	C	7	T&A; Circ.	"	"	Specialist & Interne

TABLE I—ANALYSIS OF RESULTS—CONTINUED

CASE NO.	INITIALS OF PT.	RACE	AGE	OPERATION	PRE-OPERATIVE CULTURE	POST-OPERATIVE CULTURE	SURGEON
44.	R.B.	C	3	T&A; Circ.	Negative	Negative	Specialist & Interne
45.	J.J.	C	4	T&A	"	"	Specialist
46.	B.W.	C	7	T&A	"	"	Interne
47.	A.R.	C	8	T&A	"	"	Specialist
48.	R.B.	C	9	T&A	Diplococcus mucosus on 2nd opening	"	Interne
49.	R.B.	C	9	T&A	Negative	"	Specialist
50.	A.W.	C	11	T&A	"	"	Interne
51.	D.F.	C	11	T&A	"	"	Specialist
52.	R.H.	C	8	T&A	"	"	Interne
53.	H.K.	W	5	T&A	"	"	Specialist
54.	L.M.	W	3	T&A	"	"	Specialist
55.	R.L.	W	5	T&A	"	"	Specialist
56.	L.B.	W	6	T&A	"	"	Specialist
57.	R.C.	W	8	T&A	"	"	Interne
58.	J.R.	W	7	T&A	"	"	Specialist
59.	E.M.	W	11	T&A	"	"	Interne
60.	N.W.	W	10	T&A	"	"	Specialist
61.	B.M.	C	9	T&A	"	"	Specialist
62.	C.C.	C	11	T&A	"	"	Specialist
63.	P.F.	C	9	T&A	"	"	Interne
64.	A.J.	C	11	T&A	"	"	Specialist
65.	M.R.	C	8	T&A	"	"	Interne
66.	L.M.	C	9	T&A	"	"	Specialist
67.	E.H.	C	9	T&A	"	"	Interne
68.	W.R.	C	8	T&A; Circ.	"	"	Specialist & Interne
69.	T.H.	W	4	T&A	"	"	Specialist
70.	C.M.	W	10	T&A	"	"	Interne
71.	R.P.	W	4	T&A	"	"	Specialist
72.	A.E.	W	8	T&A	"	"	Interne
73.	L.C.	W	4	T&A	"	"	Specialist
74.	H.R.	W	5	T&A	"	"	Interne
75.	H.R.	W	6	T&A; Circ.	"	"	Specialist & Interne
76.	B.T.	W	3	T&A; Circ.	"	"	Specialist & Interne
77.	L.L.	C	7	T&A	"	"	Specialist
78.	S.J.	C	8	T&A	"	"	Interne
79.	J.W.	C	10	T&A	"	"	Specialist
80.	E.B.	C	8	T&A	"	"	Interne
81.	C.K.	C	9	T&A	"	"	Specialist
82.	M.S.	C	11	T&A	"	"	Interne
83.	D.B.	C	9	T&A; Circ.	"	Strep. Non-Hemolyticus (Type gamma) on 1st opening	Specialist & Interne
84.	R.H.	W	2	T&A	"	Negative	Specialist
85.	L.H.	W	6	T&A	"	"	Interne
86.	E.W.	W	5	T&A	Staphylococcus albus on 2nd opening	"	Specialist
87.	A.C.	W	7	T&A	Negative	"	Interne
88.	N.C.	W	9	T&A	"	"	Specialist
89.	D.K.	W	7	T&A	"	"	Interne
90.	A.P.	W	11	T&A	"	"	Specialist
91.	D.G.	W	11	T&A	"	"	Interne
92.	T.J.	W	9	T&A	"	"	Specialist
93.	A.H.	W	11	T&A; Circ.	"	"	Specialist & Interne
94.	C.P.	C	9	T&A	"	"	Interne
95.	S.T.	C	10	T&A	"	Strep. Non-Hemolyticus on 1st opening	Specialist
96.	A.R.	C	10	T&A	"	Negative	Interne
97.	M.H.	C	8	T&A	"	"	Specialist
98.	A.H.	C	10	T&A; Circ.	"	Staphylococcus aureus on 2nd opening	Interne
99.	M.B.	C	11	T&A	"	Staphylococus albus on 2nd opening	Specialist
100.	E.E.	C	11	T&A	"	Negative	Interne

5. Cultures and smears directly from the tonsils were not taken.

CASES

Cultures were made on 100 children between the ages of two to eleven years, undergoing tonsillectomy and adenoidectomy. Thirteen of the cases underwent coincident circumcision. The operations were performed by an E.E.N.T. specialist (Dr. C. C. Cooley, chief of E.E.N.T. service at King's Daughter's Clinic), or by one of the internes of this hospital under the specialist's supervision. All tonsillectomies were performed with the Beck-Schenk tonsillectome.

All cases were from the charity wards of the clinic, undergoing the operation because of definitely diseased tonsils with palpable cervical glands, or a history of previous attacks of tonsillitis.

RESULTS

An outline of the findings may be seen in the accompanying table.

Blood from eighty-three of the 100 cases showed no growth in either the pre-operative or the post-operative culture by the end of ten days. Of seventeen remaining cases, seven showed growth in only the pre-operative and ten in the post-operative specimens.

In four of the seven pre-operative cases growth did not appear until the sixth or tenth day, and it is believed that these were contaminants introduced on previous openings of the cultures (explanation later).

One pre-operative culture, Case Number Ten, was positive for a light growth (i.e., very few organisms per h.p.f.) of non-hemolytic streptococci. The post-operative specimen from this same patient was heavily loaded with the same organisms on the first opening; hence, this case is believed to be a truly positive one.

Of the other 2 pre-operative cultures, both were believed to be contaminants because:

1. The isolated organisms were saprophytic bacteria or cocci and were not of the pathogenic variety that invade the blood stream. They were the type of common invader which normally inhabits the nose and throat, e.g., diplococcus mucosus.

2. The positive cultures occurred in the first portion of the study (between the sixth to twenty-fourth cases) when the author was doing both the operation and taking the culture, thus contaminating his hands in the patient's mouth and then handling the culture tube, cotton plug and blood specimen. After the thirty-first case he no longer participated in the operation until the ninety-fifth case and the remaining sixty-nine pre-operative cultures were all found negative on the first opening. It is interesting to note that two out of the last five post-operative cultures, when the author was again participating in the operation, were positive.

3. These positive cultures occurred during the three weeks that the author unfortunately had a severe upper respiratory infection and it is quite possible to say that they became contaminated thru his coughing and sneezing. This must be considered because of the numerous positives obtained during this period and their conspicuous absence in the last seventy cultures when he was no longer afflicted.

4. None of these six cases showed positive cultures in the post-operative specimens taken fifteen minutes later.

In ten cases, growth was found only in the post-operative cultures. Case Number Ten was deemed a true positive (see above), thus leaving nine positive cultures. Of these, only four were positive upon the first opening, and five were positive on the second opening after having been negative on close study of their first opening. Here, again, most of the cultures, except eighty-three and ninety-five, were positive for non-pathogenic organisms not usually found as blood stream invaders. Cases eighty-three and ninety-five are thought to be true positives because:

1. They were positive on the first opening.
2. The isolated organisms were streptococci.
3. The cultures were, in all probability, free from having been contaminated, since they were taken late in the series.
4. They were the only positive cultures in fifty cases, all of which were handled and treated in exactly the same manner.

Cases Ninety-Eight and Ninety-Nine are believed to be contaminants because they appear on the second opening and the author had again participated in the operations on the last five cases. The organisms recovered were staphylococcus albus, common contaminants, but uncommonly cultured from the blood stream.

SUMMARY OF RESULTS

1. Of 100 patients between the ages of two and eleven years on whom tonsillectomies and adenoidec-

tomies were performed, three cultures were found positive for pathogenic blood stream invaders. One was positive for the same organism in both the pre- and post-operative specimens, the other two being present only in the post-operative culture.

2. Six other positive pre-operative and seven other post-operative positive cultures were believed to be contaminated, for reasons stated.

3. No constant relation could be made between the surgeon and the positive cultures, since two of the three positive cultures were cases operated upon by the experienced specialist and one by the learning interne, thus indicating that the degree of trauma to the patient's throat probably had no bearing on the invasion of organisms into the blood stream.

4. There was found no variation in the clinical course, temperature elevation, or recovery of those with the positive cultures and those who did not run a bacteremia. All cases made complete recoveries with no deaths and no complications.

CONCLUSION

The author feels that the evidence produced by this study is in favor of the fact that an "unimportant" bacteremia occurs in a small percentage of cases of tonsillectomy on children, but in not more than 3 per cent of such cases at the maximum. This bacteremia is apparently easily taken care of by the defense mechanisms of the body and is therefore of no apparent clinical significance.

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THE TREATMENT OF JUVENILE DELINQUENCY IN BELLEVUE HOSPITAL.*

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The Adolescent Ward of Bellevue Psychiatric Hospital[1] has been functioning since April, 1937. Although the adolescent period extends up to the age of twenty, we admit only those ranging in age from twelve to sixteen as we are equipped to handle only forty to fifty boys at a time. Occasionally, we admit a boy under the age of twelve if he is too big or too aggressive for the Children's Ward and we sometimes admit a boy of seventeen. The majority of our cases are referred to us from the courts but we also admit children directly from homes, schools and social agencies. The cases are referred to us chiefly because of delinquencies such as truancy, stealing, running away, fire-setting, sex offenses, and murder.[2] These cases represent roughly only about seven to nine per cent of all the delinquent boys appearing in the New York Children's Court. In 1937, for example, there were 4,571 delinquent boys in the New York Courts and during the first year of the existence of the Adolescent Ward, we had 496 "first admissions", of which 353 were court cases. First offenders in the Children's Courts are rarely sent to us unless they are sex cases and the majority of the boys have had at least two or three previous court appearances and opportunities on probation before being sent to Bellevue. Thus the cases on the Adolescent Ward represent the more serious forms of delinquencies or emotional problems and have frequently been compared to the "Dead End Gangs", popularized in the theatres and movies in recent years.

Although there is considerable fluctuation in the type of cases from time to time, about 20 to 25 per cent of our cases are mentally defective as well as delinquent, about 5 per cent are psychotic (post encephalitic or post-traumatic psychoses or early cases of Schizophrenia), about 1 or 2 per cent have severe neurotic problems and the remainder are non-psychotic, non-defective behavior problems, a very small group of which are labeled as psychopaths.

Many boys are referred to us who are seclusive, withdrawn and who express ideas of reference. They are often diagnosed as cases of Schizophrenia by outside doctors and are sent to us for commitment to state hospitals. Frequently, they are intro-

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verted, come from broken homes and, because of puberty changes, acne, alteration in size and voice, and awkwardness, they become very sensitive about their appearance. They are similar to cases of social neurosis described by Schilder.[3] The majority of these boys respond well to group psychotherapy, although at first they must be forced into activities, and later they adjust well in the community.

We have only about three to five definite cases of Schizophrenia each year and I mention this to emphasize the rarity of Schizophrenia in early adolescence. In the three and one-half years of the ward's existence, we had only one typical case of manic depressive psychosis, although we have had many boys referred to us following suicidal attempts; these cases were reactive depressions or emotional outbursts in psychopathic individuals.

We have had very few clear-cut cases of hysteria or psychasthenia,[4] although we have many patients with marked hypochondriacal symptoms.

Approximately one-fourth of our adolescent patients are negroes. This ratio is higher than is found on the children's ward at Bellevue, where similar problems in both boys and girls under the age of twelve are studied. Bender[5] states that, of the 7,000 children under observation on the children's ward in fifteen years, 1,100 were negro children. Between 1935 and 1938, the percentage of negro children rose to 18 per cent of the total ward population. Bender made a statistical analysis which showed that there is a proportionately greater number of negroes requiring public care in institutions on charges of juvenile delinquency, adult criminality, childhood behavior disorders or adult mental illness, as there are also a proportionately greater number of negroes dependent on home or work relief in New York. She believes much of this can be accounted for on the basis of social and economic disadvantages but adds that there does seem to be some evidence of a difference in the mesoderm which leads to a different reactivity of the vascular system of the negro and may cause some special deviation in organic brain conditions related to hypertension and, perhaps, syphilis. A greater variability in cranial contours may be another expression of racial mesodermal variability or anatomical primitivity. Bender describes specific reaction patterns in behavior of negro children in form of blocking, mutism, catalepsy, negativism and a facile capacity to fall asleep. These behavior patterns may be observed in reaction to emotional conflicts as mechanisms of escape from intolerable situations, or in association with organic disturbances.

On the Adolescent Ward, the chief problem of the negro child is his marked aggression. The negro boy in New York is usually better developed physically than the white boy of similar age; he attains puberty earlier, and he has had a more active sex life prior to his coming to the hospital. When the percentage of colored boys is over about 15 per cent of the ward population, these boys organize groups and bully or intimidate the white boys. They display more open aggression against staff members than do the white boys.

From a sociological standpoint, the largest number of our boys are products of broken homes or else they come from homes where the parents are on home relief or its equivalent. Many of our boys are the children of psychotic or criminal parents. Negroes and children of Italian extraction form the largest part of the ward census followed by children of Irish extraction. We have very few Jewish boys on the ward and these are usually neurotic or psychotic rather than behavior problems.

As might be anticipated on a ward consisting of adolescent boys the majority of whom have been showing anti-social conduct at home or at school, considerable aggressive and destructive behavior has been observed.[1]

When the ward was first opened much property damage occurred. Windows were repeatedly broken. Tables and chairs were frequently destroyed. Murals were ripped from the walls. Door knobs were broken, light fixtures were tampered with, sheets and blankets were thrown out the broken windows. These boys would ask for brooms or mops to help clean the floor and would then use the handles to puncture holes in the sound-proofing on the ceilings. They destroyed victrolas and victrola records which were being used to provide music for their dancing lessons. They would rip up keys from pianos. On one occasion they removed the metal caps from the bottom of chairs and had inserted them in the heels of their shoes to give a "sound effect" to their tap dancing. These aggressive and destructive acts have been greatly curtailed since we have better understood the underlying problems and have found the roots of many of the boys difficulties.

At times a group of boys would organize themselves as a committee to initiate each new boy. They

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would usually perform their activities late at night, would force the newcomer to undress and would hit him several times on the buttocks. If he rebelled they would hit him, producing injured eyes, bruised arms, and torn clothes. Whenever we learned of such ceremonies we would have a group conference with all the involved parties, would try to point out the significance of their aggressive acts and would then be free of this initiation ceremony until an entirely new group would be on the ward. The boys justified these initiations by pointing out the initiation ceremonies in fraternity houses, and other organizations, and said that the ward gave them their only chance to be like fraternity boys in college.

Occasionally the boys organized groups such as the "Black Legion". Its avowed purpose was to "gang up" on anyone giving information about property damage to nurses or physicians. However, this group was soon found to be assaulting only Jewish boys and the guilty parties acknowledged this, saying "The Jews killed Christ."

Types of Treatment

It is our policy to keep our patients under observation for about four weeks, because often we are not able in a shorter period of time to determine whether or not a boy will be able to adjust in the community or (should he require institutionalization) to decide which type of institution should receive him. Often boys will behave themselves for a week or two and then manifest very serious anti-social conduct, similar to that which they had previously shown in the community. In contrast, some patients on admission are very sullen and uncooperative but soon adjust well on the ward and subsequently in the community. We feel that this is one fault in the average child guidance clinic, namely, that the boy is seen only once or twice by the psychiatrist for an interview of an hour or two and then a decision is made as to his diagnosis and future placement. We feel it is necessary, not only to the delinquent boy, but to the community at large, that the boy be observed for several weeks in a set up which should duplicate as much as possible the community set up of school, play ground, etc.

In organizing the Adolescent Ward we were guided by the work of Bender on the Children's Ward at Bellevue[6] and the work of Potter[7, 8, 9] at the New York Psychiatric Institute. Believing that group activities are of great value in treating behavior problems, we have, with the aid of the Board of Education and the Works Progress Administration, instituted a number of group therapy projects.

Educational Projects

We have two full-time Board of Education classes, one being an "ungraded", the other an "opportunity" class. Children with an I. Q. of 75 or below or with severe educational retardation are referred to the first class. The children are sent to the classroom in groups of six to ten and usually are there for one hour in the morning and one hour in the afternoon. Adolescent girls from the adult women's quiet ward also attend these classes with the boys as we wish to duplicate the school set up which the children face in the community. Adolescent behavior problems are often concerned with sexual tension or conflicts, and such symptoms as blushing, shyness, over-assertiveness, flirting, etc., occur at this time. As these problems present themselves we then try to analyze them and clarify these school problems for the boys, the teachers and the parents. The school authorities transfer the "record cards" of the boys to the school in Bellevue and the children are given credit for their school work while in the hospital.

We also have a remedial teacher who tutors children with reading and arithmetic disabilities. In this class, the teacher rarely has more than three children working at one time as these children, with their handicap, are unusually sensitive to remarks of others. After a month of such tutoring, we attempt to arrange for a continuation of this tutoring once they have returned to the regular school.

Art Classes

The use of art in treating emotional problems has been recognized for some time and papers dealing with this therapy have been written by many workers, including Liss,[10] Bender,[11], Despert,[12] Levy,[13] Eng,[14] Prinzhorn,[15] Lewis,[16] and Lyle and Shaw.[17] In the art class on the adolescent ward,[18] the children use water colors, crayons or pencils. We have not used finger painting for economic reasons. Some children draw on tables; others attach paper to easels and draw while standing up.

In such a class, we believe that the child should be encouraged to draw anything he wishes, rather than that he should be taught techniques to make him a successful artist.

The first task of the art teacher should be to encourage the patient to draw and the teacher should not suggest topics. His attitude should be tolerant, not critical. This attitude is necessary, as our patients often wish to draw obscene or sadistic scenes. Should a patient show marked pre-occupation along sex lines and draw overt sexual pictures, this should be permitted, but arrangements made for the patient to work in the art class when no other patients are there.

In order to encourage paintings of various types, the teacher should display the work done by the patients on the wall of the art class, and also in the physicians' offices, school rooms, etc. The teacher should make detailed notes as to the behavior of the patient in the art class, such as the way he approaches the problem, the amount of encouragement needed and should write down the comments made by the patients not only about their own art productions, but also those of their fellow workers. Moreover, patients working in an art class when doctors and nurse are not present will often feel more free to discuss their ideas on aggressiveness, stealing, and their attitude toward parents, physicians, and teachers.

After the patient has completed his drawing the teacher should interview him, asking him why he chose this particular subject, whether suggestions were given by others and exactly what he thinks the drawing represents. The patient should then be encouraged to use the "free association" method, discussing incidents which the painting has brought to the conscious level. The statement of the patient should be written on back of the drawing and handed to the psychiatrist. The physician, in his later interviews, can thus use the art material as an aid in understanding and treating the patients. Morever, the drawing of the picture itself, from the standpoint of catharsis, expression of motor impulse, instinctual impulse, aggressive and sexual drives is of great help to the patient.

As I have said elsewhere,[19] the art work is not done to make artists but to give to our patients free expression of the driving forces within them which have been damned up and led to neurotic or social difficulties.

It is necessary to consider each picture in connection with the mental problems of the patients, and this is especially true in cases of adolescents, where sexual problems often appear in symbolic forms. Many patients are hounded by restlessness and fears and try to find peace by elaborating tranquil landscapes. Sometimes they will indulge in drawings with very meticulous details. In neurotic patients, the repressed impulse may also appear in a continuous repetition of the same motive.

One may also get leads as to the patient's emotional problems from the colors he selects. For example, patients who are aggressive will use colors such as reds and yellows, while darker colors are preferred by those involved in problems of death and annihilation. In our opinion, it makes a great deal of difference if one prefers to draw curves or angles, as the latter indicates aggressiveness. Mentally defective patients draw primitive forms such as persons with abnormally large heads, with arms and legs coming from the head or neck. Schizophrenic drawings are usually symbolic and these patients often portray pictures of eyes, breasts, crystals piercing the body and the like. Epileptic patients often use vivid red colors in their drawings.

DRAMATIC ACTIVITIES

Another form of group therapy which we use in the dramatic project.[20] In this activity, the boys write and act out their own plays under the supervision of a dramatic coach or nurse. Occasionally they adapt plays from stories they have read or movies they have seen. The majority of the plays are concerned with problems of aggressiveness, stealing and gang formations. They write and rehearse for the plays daily and put on one play each Saturday morning. After the play, a group discussion is held with all the patients on the ward. The children are asked if they believe the play is true to life, how they could change the plot or alter the conduct of any of the cast or change the ending. In the course of the discussion the children then spontaneously bring up more intimate problems dealing with inter-personal situations in the hospital, court, school and home. Boys whose clinical behavior indicates they dislike a parent or sibling, but who deny this in psychiatric interviews, will talk openly in the conference about similar characters in the play, describing them as hateful people who should be punished in various ways or even killed. Moreover, in the discussion, the patients will freely admit aggressive behavior which they have previously denied. With the leads thus presented to him, the psychiatrist can work more intensively in future in-

dividual psychotherapeutic conferences and can insist on further associations which lead deeper into the individuals conflicts.

The mechanism of identification and projection are clearly seen in the plays written and the selection of parts by the boys themselves. We have seen repeatedly that effeminate boys will beg for feminine roles in plays while our more aggressive boys wish to portray the gangster parts, while the schizoid boys wish to represent such persons as teachers, nurses, judges, attorneys or physicians.

At times we insist that the submissive or effeminate children play the aggressive characters in the dramatic production. In many such cases we could then see marked changes in the behavior of these children. They felt more capable of handling themselves, were less bullied and, in general, mixed better with other patients.

ATHLETIC PROGRAM

The necessity for adolescent boys in good physical condition to have an accepted socially approved outlet for their physical energy is obvious.[1] For this reason, two athletic coaches work full time on the ward, one in the morning and early afternoon, the other in the late afternoon, evenings and holidays. All children, unless physically ill, are assigned for periods of an hour or more. Whenever possible the boys are divided according to their physical size and strength. Various types of ball games, rope jumping, running games, roller-skating and boxing activities are utilized. Special lessons in boxing and wrestling are given to the schizoid or effeminate children. When these children are able to defend themselves they are no longer victimized and their mental attitude changes markedly. Moreover, many of these children, who have inadequate opportunities for play in congested parts of the city, learn for the first time to play ball, to box, etc.

The participation in sports with other children, also, is of definite socializing value.

MUSIC PROJECT

Singing classes and rhythm band activities are utilized. Singing classes are of definite socializing value and the rhythm band activities are particularly beneficial for our hyperkinetic children. Van de Wall[21] has written in detail about the work of music in institutions.

For a time we had a WPA teacher who gave instruction in ballroom dancing to the boys; this was of definite socializing value also.

PSYCHOMETRIC STUDIES

Occupational Therapy and Physiotherapy.—We utilize all the regular hospital projects including physiotherapy and occupational therapy. Children with acne are treated with ultra-violet light. Fever therapy is used in selective cases of chorea and post-encephalitic hyperkinesis. Each child is given individual psychometric tests by a qualified psychologist.

MISCELLANEOUS ACTIVITIES

On the ward we have had instructors who taught the boys how to play checkers, dominoes, and quiet types of athletic games such as ping-pong and shuffle board. The teaching of such games is done not only to amuse the children and keep them occupied but serves to help them in their future social contacts.

GROUP CONFERENCES

In addition to the conference held with all the patients after the plays, we have group discussions with six to ten boys at a time. In these conferences, we discuss various types of aggressive behavior manifested by the boys on the ward. We also use such conferences to clarify their attitudes toward sexual anatomy and physiology as well as toward their ideas of illnesses in general.

Both children and adults have very distorted ideas about various types of bodily ailments and we feel it is important that they be given a better orientation about their own bodies and about disease pictures in general. For example, many boys in need of minor operations such as dental extractions, tonsillectomies, or circumcision, are terrified that they will be castrated or receive permanent injuries as a result of such procedures.

In addition to the participation in various group activities each boy has several individual psychotherapeutic conferences with the psychiatrist. In such conferences, what has happened in the various group activities is summarized and explained in its deeper aspects. It is also possible in this way to exemplify to the adolescent his own problems in the problems he sees in others and which he can recognize more readily in other boys than in himself. He learns that when the ward discipline forces him into restrictions these restrictions are socially necessary.

DISCIPLINE

We do not permit physical punishment of any kind on the adolescent ward, nor do we deprive the children of food, such as dessert, when they have been destructive.

Our policy is to bring the child into the physician's office for an interview whenever he has been assaultive or destructive. An attempt is made to understand why the child behaved as he did, and he is given another chance to join in the ward routine, but is told that if he repeats this behavior he will have to be subjected to certain disciplinary measures as his behavior cannot be tolerated if the ward is to function properly. Every child should be given a warning and a second chance. If he repeats the offense, our first disciplinary step is to remove his clothes and put him into pajamas for twenty-four hours. This is considered to be a definite punishment as it immediately singles him out from his fellows and it indicates to his relatives who visit him that he has been in difficulty. If the offense is again repeated or is more severe, he is also prevented from attending activities off the ward, such as school, occupational therapy, and athletic activities.

If a patient has a severe temper tantrum and this cannot be controlled by an interview with the ward physician, then occasionally we put a child into seclusion for fifteen to thirty minutes, explaining to him that such a procedure is necessary as we cannot permit him to continue disturbing the ward. As soon as the temper outburst subsides, he is removed from seclusion.

If we discover that a boy is showing repeated destructive behavior such as breaking windows or furniture and the above described procedures do not check his conduct, we sometimes transfer him to another ward for a twenty-four hour period. Occasionally we forbid his attendance at the movies, held weekly, if he is repeatedly destructive.

In deciding disciplinary measures, we must be guided by the diagnosis in each case. For example, post encephalitic psychotic children are often unable to control their restless, aggressive behavior. On the other hand, some boys deliberately break rules or are destructive to show their defiance of authority. Psychotic children who develop marked outbursts of aggressiveness sometimes have to be treated on the disturbed wards with various forms of hydrotherapy until the excited episode is over, after which they are usually returned to the adolescent ward.

MEDICAL TREATMENT

Each adolescent is given a detailed physical and neurological examination, and laboratory studies, such as X-rays of the skull and blood Wassermann tests, are done routinely. Under-nourished children are given special diets. Boys with undescended testicles are given endocrine therapy first, such as antuitrin S., and, if this is ineffective, we may resort to surgery. Each child is sent to the dentist for routine prophylaxis and a complete X-ray of his teeth. Diseased teeth are extracted, diseased tonsils are removed and other medical or surgical treatments are provided as the need arises. Eyes are examined and prescriptions secured for glasses when necessary.

The treatment of acne, correction of strabismus, removal of infected tonsils, treatment of chronic otitis media not only improve the patients physical condition but also has definite psychotherapeutic value.

FOLLOW-UP STUDY

Many people working with delinquent children and adolescents are very pessimistic about their future social adaptation. Potter and Klein[22] studied 175 boys and girls under fourteen treated at the New York State Psychiatric Institute and concluded that 109 (57 per cent) made unsatisfactory adjustments. The Gluecks[23] studied 1,000 juvenile delinquents in Boston, in ages ranging from six to seventeen. In a study five years later, 88.2 per cent of the patients continued their delinquencies.

Recently these two authors studied as many of these patients as they could find over an additional ten-year period, that is fifteen years after their first contact with patients, with average age of thirteen and one-half.[24] In this report they claim a decrease in the amount of delinquency and a decrease in type of anti-social conduct in those who remained delinquent. However, a relatively large number of offenders continue to be delinquent, 226 showing serious and eighty-eight showing minor delinquencies throughout the fifteen years.

Fenton and Wallace [25] report 23 per cent failures in a follow-up study in the California Bureau for Juvenile Research. Lee and Kenworthy,[26] in the Bureau of Child Guidance and Department of Mental Hygiene of the New York School of Social Work; Newell,[27] in the Baltimore Mental Hygiene Clinic, and Witmer,[28] in the New York Child Guidance Institute, report 21 per cent failure in follow-up

studies. Kirkpatrick[29] studied 1,000 delinquent boys examined in the Cleveland Juvenile Court and found 28.4 per cent failures in a study four to seven years later. Healy and Bronner,[30] dealing with youthful recidivists in Chicago, reported 61 per cent failure, and their studies in the Judge Baker Foundation in Boston showed approximately the same percentage of failures. Later, Shimberg and Isrealite[31] did a follow-up study of delinquents at the Judge Baker Foundation in Boston and concluded that 66 per cent of the intellectually average and 70 per cent of the mentally defective were failures.

In an attempt to determine the value of the various types of activities used in the treatment of juvenile delinquency at Bellevue, Carroll and I[32] did a follow-up study in 1939 of the first 300 court cases admitted to the Adolescent Ward between April, 1937, and January, 1938. The follow-up study was done approximately eighteen to twenty-four months after the boys left Bellevue.

Our follow-up study is open to valid criticism in that we did not personally see every boy. However, we carefully examined the probation reports of the courts, secured all available follow-up records from correctional institutions, state schools, state hospitals, social agencies, etc. All boys who were not institutionalized after leaving Bellevue on returning to court were placed on probation. In a very few cases we have no further data on the patients after they reached their sixteenth birthday sometime during 1938. In practically all cases, however, we have investigations extending up to June or July, 1939.

It might be of interest to report that our investigation revealed that our recommendations were carried out by the Judges in 86.3% of the cases.

In rough figures, we usually recommend that 50 per cent of our patients be returned home, that 25 per cent be sent to state schools or state hospitals and 25 per cent be sent to correctional institutions.

Of our first 300 court cases, we recommended probation in 128 boys and this was followed out by the Judges in 119 cases. We recommended that sixty-two boys be sent to correctional institutions and this was done in fifty-two cases. We recommended that seventy-nine boys be sent to state schools and this was done in sixty-three cases. Of the sixteen who did not go to state schools at once, two were sent home because their families opposed their commitment in the Supreme Court, eleven were sent home by the Children's Court justices and three were sent to correctional institutions. We recommended that sixteen cases be sent to state hospitals and this was done in all cases. We advised that three epileptic patients be sent to an epileptic colony and in the remaining twelve cases, we suggested such places as camps, orthopedic hospitals, or placement in foster homes.

The follow-up study in 1939 revealed that 201 of the boys were at home, forty-seven were in state schools, thirty-two in correctional institutions, seven in state hospitals, one in an epileptic colony, two were dead, four could not be located, two were awaiting trial in adult courts and four were in foster homes or general hospitals.

Of the 201 at home, ten were reported as being occasional truants, but otherwise adjusting satisfactorily.

SUMMARY

This study thus shows that 67 per cent of the adolescent boys with court records were at home and adjusting well, and that only 10.66 per cent were in correctional institutions approximately eighteen months after leaving Bellevue Psychiatric Hospital. These figures are much lower than from many child guidance clinics, and in our opinion, tend to suggest that a thirty-day period of observation and treatment in a psychiatric hospital is of positive value. We would recommend that similar wards for adolescents be instituted in other psychiatric hospitals and in state hospitals.

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PHYSICAL THERAPY AS AN AID IN THE TREATMENT OF PNEUMONIA.

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The purpose of this paper is to recommend the use of penetrating heat as a simple and effective aid in the treatment of pneumonia. Electromagnetic induction as produced by the inductotherm or any similar apparatus is the type of heating to which reference is made.

It must be clearly understood that the purpose is to present this method as a complementary, rather than as a supplementary measure. It has been my experience that the use of penetrating heat to the chest makes the patient more comfortable by relieving pleuritic pain, relieving cyanosis, bringing about a sense of well-being by relieving the toxicity, and last, but not least, expediting the action of other therapeutic measures.

The physiologic effect of penetrating heat is to increase the blood supply to the part heated. Beyond this point we are unable to go at the present time; however, we know that by increasing the blood supply we will increase the number of antibodies and the amount of the chemotherapeutic agent reaching the affected part. If, in addition to this, it is possible to

relieve pleuritic pain and thereby increase the depth of respiration, we can improve the gaseous exchange in the unaffected portions of the lungs, and thus cyanosis is relieved. The increased sense of well-being is probably the result of all these factors.

The typical case of lobar pneumonia runs a febrile course for several days, at the end of which time the temperature falls by crisis. With the advent of chemotherapy (sulfanilamide, sulfapyridine, and sulfathiazole) and by means of type specific antiserum, where practicable, this exhausting febrile period has been greatly shortened. According to Boyd, in his Text-Book of Pathology: "The *crisis* is a clinical phenomenon which cannot be explained by the pathological lesions. It is the most dramatic of changes, for in a few hours the temperature may drop 7° or 8° F., the dyspnea disappears, the respirations return to normal, and the patient passes suddenly from a condition of grave peril to one of complete safety. And yet the lung is in the same condition before the crisis as after it. A sudden detoxication occurs, but the explanation must be sought on immunological rather than morphological grounds." It is conceivable, therefore, that a non-toxic elevation of lung temperature is a desirable measure in that we are able to maintain the accelerated production of anti-bodies and at the same time bring more of the chemical agent to the lungs. It is unfortunate that there are no published studies to date on the combined use of chemotherapy and penetrating heat.

Aside from the relief of pleuritic pain, cyanosis, and the increased sense of well-being following the use of penetrating heat, it should be noted that the patient is not disturbed by the actual application of this agent. By means of a fixed pancake-shaped coil mounted on a support it is possible to give the treatment without even awakening the patient, as there is no weight on the patient's chest, nor does the patient have to be uncovered. Inasmuch as inflamed tissue is more readily over-heated than normal tissue it is best to use heat of moderate intensity at frequent intervals rather than high intensity at less frequent intervals. The best index as to the frequency of treatment is the patient's reaction. If by giving penetrating heat to the chest for twenty to thirty minutes it is possible to relieve the pleuritic pain for four hours, then such an interval is as good as any other. However, the penetrating heat may be used as often as every hour without danger, as long as the patient's reaction is favorable.

A few words concerning the mode of action of penetrating heat may serve to clarify the picture and to differentiate this type of heating from hot packs, electric pads, and the like. Penetrating heat (electro-magnetic induction) is delivered by a rubber-covered wire cable, through which runs a current of about 8,000 volts and in which the direction of the current flow alternates at a rate of 12,000,000 times a second. By virtue of this high voltage and high frequency current there is set up around this cable a very intense electro-magnetic field. When the lines of force from this field cut across the patient's tissues, heat is generated within the tissues in direct proportion to the conductivity of the tissues. In other words, since the more vascular tissues are the more conductive they receive the most heat. Lungs are more vascular than skin; hence, when the fixed pancake-shaped coil is placed over the chest, the more vascular lung parenchyma is heated to a greater degree than is the less vascular skin.

The following case report will illustrate the point regarding the relief of pleuritic pain:

The patient was a fifty-four-year-old white female who was admitted to the hospital with a chief complaint of pain in her right side accompanied by chills and fever of three days' duration. At this time her chest was clear to physical examination and most of her tenderness was referred to the right kidney area. She was running a moderate leucocytosis (11,500) and a fever between 102° and 104° F.; it was felt that she was suffering from a ureteral calculus with associated renal colic. Cystoscopy was negative. Two days after admission, or five days after the onset of symptoms, the patient began to raise bloody sputum which, on typing, revealed a type VIII pneumococcus. Physical examination at this time revealed a consolidation in the right base and X-ray examination confirmed the diagnosis of right lower lobar pneumonia. Chemotherapy and other supportive measures were immediately begun. The patient's temperature promptly fell from 104, and within twenty-four hours was ranging between 98 and 99. The patient's main complaints were nausea and vomiting and pain in the right side; cyanosis was moderate. The use of *penetrating* heat for thirty minutes twice or three times a day was sufficient to give marked relief of the pleuritic pain and in a large measure relieved the cyanosis. Chemotherapy (sulfathiazole) was stopped nine days after the pneumonia had been found. Heat therapy was continued for eleven days. The patient's convalescence was uneventful.

Another advantage to the use of penetrating heat is that it is applicable in all types of pneumonia re-

gardless of the etiologic agent. Let me illustrate this point by a second report:

The patient was a twenty-nine-year-old white male who came into the hospital five hours after a series of chills. At the time of admission his temperature was 103, his respiratory rate 30, and his pulse 110. There was moderate cyanosis, an irritating but non-productive cough, and extreme general malaise. Examination of the chest revealed fine moist rales at both bases. On the strength of the history and the clinical findings a diagnosis of bronchopneumonia was made. X-ray examination confirmed the clinical diagnosis and showed that the pneumonic process was more advanced on the left than on the right. This case was seen before sulfanilamide was in common use and, in the absence of sputum, it was not possible to obtain any lead as to the causative organism. The patient was given the routine treatment then in use which consisted of codeine, luminal, and aspirin capsules; elixir of terpine hydrate; forced fluids and so forth. In addition, electromagnetic induction, given thirty minutes every four hours, was used. At the end of twelve hours the patient's cough had diminished, his temperature was normal, his pulse around 80, and respirations were normal. He was able to force fluids and his appetite, which had been conspicuous by its absence, returned in full vigor. Despite his very pronounced symptomatic improvement, which was maintained throughout the rest of his stay in the hospital, X-ray examination three days after admission showed the process to be more extensive than before and equal on both sides. Medication was stopped after seventy-two hours, but the penetrating heat was continued for one week. The patient was discharged at the end of nine days and X-ray at that time showed marked clearing of the bases. Two days after discharge, the laboratory reported a hemolytic streptococcus as the causative organism. One month later the lungs were normal and have remained so since. The last X-ray on this patient one month ago showed normal lungs—some two years after his illness.

There is an old saying that "an ounce of prevention is worth a pound of cure"; in no condition is this more applicable than in pneumonia. The use of type specific anti-serum must, of course, await the determination of the type of the causative organism. This precludes the prophylactic use of this measure in most cases. At the present time there is much debate as to the wisdom of using sulfanilamide until such time as a definite diagnosis has been established. The use of penetrating heat to the chest in a patient who has a severe cold, especially where there is also a moderate or a severe bronchitis, has in my experience been attended with very gratifying results. Of course, it is impossible to say that in any such case we have kept the patient from having pneumonia, for, unless pneumonia develops, one has no assurance that it would have followed had not the penetrating heat been used. However, it is unusual to see a severe bronchitis that does not respond very favorably to the adequate use of this measure.

CONCLUSIONS

1. *Penetrating heat* (electromagnetic induction) appears to be a useful adjunct in the treatment of the more common types of pneumonia.

2. Penetrating heat relieves pleuritic pain, increasing the depth of respiration and thereby relieving cyanosis.

3. Penetrating heat is not disturbing to the patient and does not interfere with any other form of treatment.

4. It is quite possible that the increase of blood supply resulting from the non-toxic elevation of lung temperature accelerates the formation of antibodies, facilitates the action of specific antisera, and makes chemotherapeutic agents more effective.

5. The use of penetrating heat as a preventative measure in patients suffering from severe colds deserves serious consideration.

I am greatly indebted to Dr. Charles W. Doughtie for his kindness in permitting me to report one of the case histories.

PROPHYLAXIS: WHY ISN'T IT A FACTOR IN THE CONTROL OF GENITO INFECTIOUS DISEASES?

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There is no inquiry relating to the control of syphilis and gonorrhea which has provoked more heated discussion and produced fewer measurable results than prophylaxis. Metchnikoff, Roux and Maisonneuve, in 1906, announced the epochal discovery that a properly prepared ointment containing 33⅓ per cent calomel ointment, if thoroughly applied within a short time after exposure upon the

parts where the treponemes had been deposited, would prevent the development of an initial lesion by killing the organisms before they penetrated the tissues.

This suggested method of prevention of syphilis was also presumed to have a certain amount of value in prohibiting gonococcal infection, but this point has been questioned. However, the combined use of mild silver salts intra-urethrally and 33⅓ per cent calomel ointment externally has been employed as early treatment and found to be highly effective in preventing venereal infections when used within six hours after exposure and under proper medical supervision.

Why, then, do these infections continue to lead the list of communicable diseases, and why are there nearly 2,000,000 new infections of gonorrhea and 500,000 new cases of syphilis each year in the United States? The answers to these questions are wholly unsatisfactory, for no one has any conception of the frequency of sexual exposures which occur, or the actual number of infections in the population, and no one has the remotest idea of how frequently any type of prophylaxis is used or the results of its use. There have been few experiments carried out in the civilian population and these only on small groups under special supervision, and they are not by any measures representative. The best and most trustworthy data regarding prophylaxis have come from military sources.

There are several schools of thought in the medical profession on the subject of prophylaxis and, broadly speaking, they can be grouped as follows:

1. Those physicians that see the solution of the entire venereal disease movement in teaching the public the dangers of gonorrhea and syphilis and making known the details of prophylaxis.

2. The second group recognizes the value of all methods of public health information and believes that prophylaxis is a scientifically sound procedure if it is applied promptly and under proper medical supervision such as is offered in the army and navy, but it has seen no striking results from its use in the general population. This group is not unmindful of the dangers which may result from attempted self diagnosis and treatment of a venereal infection when contracted.

3. The third group feel that by advocating prophylaxis and presumably making promiscuity safe there will be an increase in the number of exposures and a false sense of security will be given and a higher venereal disease rate be the result.

4. In this last division will be found those physicians who are indifferent to the whole movement and have given no thought to the control of gonorrhea and syphilis.

The first group may be classified as belonging to the *optimist club*, for they have not examined beneath the surface of the subject and have accepted the written word as established fact and failed to consider how successful the program of early treatment measures has been in the general population. These physicians have knowledge of the manufacture and sale of prophylactic packets and realize that medicaments are prescribed for this purpose by a number of their confreres. They no doubt have read of the experiments which were carried out two decades ago in a few of the large cities of the country, Buffalo, New York, Baltimore and Philadelphia, which set up prophylactic stations operated on a twenty-four hour basis and were well conducted. The experience in each of these cities was the same: so few patients applied for treatment that the stations had to be closed. In one state, Pennsylvania, prophylaxis was included as one of the major items in their venereal disease program. The control officer in this state went so far as to have the state laboratories examine prophylactic packets as to drug content and efficiency and those that were found acceptable were permitted to advertise their product as having the endorsement of the State Board of Health of Pennsylvania. Another interesting item in this program was securing the cooperation of the druggists of the state, and they agreed to carry prophylactic packets in stock. Those directing this program did not take the public into their confidence and the results were negligible and the plan died aborning. In connection with this feature of the venereal disease program, the Army and Navy have never publicly condemned prophylactic tubes and they have used them in combating gonorrhea and syphilis. I am advised that tubes are available in army camps and on ships and shore stations. The efficacy of the present prophylactic tube used in the Navy has been questioned. Recently, information has been spread about that condoms are being recommended to the enlisted personnel of the Navy.

The second group mentioned above may be called the "show me" clan, and it is composed of physicians who clearly recognize the scientific value of the early

treatment plan when carried out under proper control. In this company will be found the majority of health officials. They acknowledge that from a theoretical standpoint the prevention of the venereal diseases by such measures should be effective in their control activities, but from my knowledge not one state has made a practical demonstration.

In the third group will be found those physicians who have been labeled "Plymouth Rock Puritans", as they hold the opinion that the real standard for prevention of gonorrhea and syphilis is abstinence from sexual relations except in normal marriage with a healthy person. To them it is moral prophylaxis—and there are no alternatives and no competitors. Their thesis is the prevention of contact between infected and uninfected individuals as the first principal of prophylaxis.

The fourth group requires no comments.

The discussion thus far has been limited to the several medical viewpoints of the fundamentals of prophylaxis, but what of the patient? Why doesn't he disinfect himself following every casual exposure? Surely the procedure is common knowledge as there are literally millions of men who have received instruction on the subject. There are a multitude of replies to this question, none of which is wholly satisfactory. One of the questions I frequently put to patients is, "Did you take any precautions to prevent the disease?" The replies made by the majority of them are negative ones and, when pressed as to the reasons why no prophylactics were used, the frequent answers are: "She is a nice girl and goes with good people", or "I met her at a party given by a friend", or "She looked clean", or "I wouldn't insult her by using the tube in her presence and have her feel that I thought she was diseased", etc.

There is a group of men who have a single sexual partner with whom they have more or less regular contact and, when one of this type is found to have a venereal infection, he expresses great surprise that his contact had been receiving other men. When questioned as to the kind of protection he used to prevent an infection, his reply often is, "I did not think any protection was necessary as I have not had intercourse with any other girl for months." A surprisingly small number of men admit the use of a rubber sheath.

There are but few men who will use any form of self-disinfection following sexual relations, save soap and water, even in the presence of a prostitute, as he thinks, and often so expresses himself to the effect that he doesn't want to offend the girl with whom he has had intercourse. Surely men cannot be expected to apply an ointment or use an injection which causes irritation or will stain the fingers or clothes. If an attitude of chivalry is interfering with the early and prompt use of prophylastics, then the results of the information regarding the dangers of gonorrhea and syphilis in prostitutes and casual acquaintances have not been commensurate with the efforts and money spent upon them. If the men who visit the prostitutes fail to take precautions for cause, the men who seek clandestine partners conceivably may have the same thought to an exaggerated degree. Is it possible that chemical prophylaxis in theory has over-reached its practical value as an indispensible weapon in the venereal disease offensive? In our efforts to prevent the dissemination of gonorrhea and syphilis we have failed not for moral or medical reasons but because of the sheer indifference and carelessness of the people. Apparently men will not avail themselves of this method of protection unless forced to do so by fear of punishment or exposure to a known source of infection. Even in the armed forces, when contraction of a venereal disease brings severe penalties, many soldiers will take the risk of becoming infected rather than reporting for early preventive treatment. I realize that there are no satisfactory measures which the woman may use aside from protection with a condom at the time of exposure save antiseptic and cleansing douches afterward. The answer to my question: "Why isn't prophylaxis a factor in the control of veneral diseases?" is a "lame and impotent conclusion"—indifference on the part of the people.

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SPLENIC ANEMIA COMPLICATING PREGNANCY—
A Review of the Literature and a Case Report.*

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Splenic anemia is a chronic disease of unknown etiology, primary in the spleen, and is characterized by splenomegaly, secondary anemia, leucopenia, a tendency to gastric hemorrhages, and later by cirrhotic changes in the liver with ascites and jaundice.[1] It is probably the least rare of the splenomegalies.[2] Both sexes are equally affected.

The combination of splenic anemia and pregnancy is extremely rare, having occurred once in 19,477 parturient cases with the fetus at or beyond viability in the period from July, 1929, through June, 1938, at the Philadelphia Lying-In Hospital. Incidentally, this is the only time this combination has been diagnosed at that hospital. Hence, it is still infrequent enough to warrant the reporting of all such combinations. A review of the literature from 1918 to 1940 revealed only twelve cases reported.

CASE REPORT

MRS. A. G. was a 19-year-old, G i, white, Italian female born in this country. She was first seen in the pre-natal clinic on November 15, 1937, at which time a review of her systems was negative except that she and her husband were on relief, and her last mensis occurred September 20, 1937. Her past history revealed that she had had measles in childhood, T&A at eight years of age, pertussis at fifteen years of age, and an abscess of the right axilla at nineteen.

Physical examination: BP 120/70. Well developed and nourished; teeth moderately carious; eyes, ears, nose, throat, glands essentially negative; abdomen no masses or tenderness; pelvis gynecoid and ample; external genitalia and vaginal: marital introitus, cervix posterior and soft, uterus anterior and slightly enlarged symmetrically. Wassermann and urine negative. No blood work was done at this time.

She progressed normally until December 16, 1937, when she came to the hospital because of backache associated with a slight brownish, vaginal discharge of twelve hours' duration. Examination was negative, so it was decided she had a threatened abortion; consequently, she was sent home to go to bed. At a routine visit three weeks later, there was no demonstrable pathology.

On January 11, 1938, the public health nurse reported that the patient was sick in bed with severe pain in her right chest and chills and fever. She was brought to the hospital immediately, and the following facts were learned: she had had weakness and weight loss for the past three years; dyspnea, vague abdominal discomfort and four pounds weight loss during the last month. For the past two days she had suffered with severe sharp pain in the right chest with chills and fever, but without cough. There was no history of edema, jaundice, urinary or gastro-intestinal upset. Physical examination revealed a white, female, Italian patient lying flat on her back, and in obvious recurrent pain. There were a few rales at the right lung base which disappeared on coughing with decreased breath sounds over the same area. The spleen was palpable four fingers' breadths below the left costal margin. It was non-tender, firm, smooth, not fixed and had a sharp edge. The uterus was palpable about at the umbilicus. She was immediately hospitalized for study. Her temperature was 99, pulse 100, respiration 22, BP 98/64. Impression at this time was acute right pleurisy, Banti's disease, and pregnancy four months. Laboratory studies showed: hemoglobin 71.4 per cent; R.B.C. 3,700,000; W.B.C. 5,400; polymorphonuclears 65 per cent with 55 filaments, lymphocytes 25 per cent, monocytes 8 per cent, eosinophiles 2 per cent; bleeding time one minute; coagulation time four minutes; platelets 133,200; urine: sp.gr. 1.012, faint trace of albumin and a few pus cells. The next day the fragility test showed that hemolysis began at 0.44 per cent and was complete at 0.34 per cent; clot retraction began at five minutes and was good in two hours. Tests for malarial parasites and trichiniasis were negative. During the next four days she had nightly epistaxes without demonstrable nasal lesions, her temperature ranged from normal to 100.4, with pulse around 106 and respiration normal. On Jan-

From the Department of Obstetrics of the Philadelphia Lying-In Hospital.

*Read before a meeting of the Ex-Internes of Stuart Circle Hospital, April 10, 1940.

Table I

Summary of Authors and Patients.

Case	Author	Year	Age	Gravid	Para	Relation of onset to Gestation	Period Gestation Delivery: when	Period Gestation Delivery: how	Hemorrhage	Results: mother	Results: child	Complications	Treatment
1	Gelli (3)	1923	41	VII	V	over ten months previous	4 mos	Therapeutic abortion following x-ray to spleen	none	recovered	fatal	none	Therapeutic abortion following x-ray to spleen
2	Allen (4)	1924	17	I	0	5 years previous	term	low forceps	none	died on table during inspection of cervix	living	irritable colon	Splenectomy five years previous.
3,	Allen (4)	1924	28	II	I	1st month	term	low forceps	2 hrs. p.p.	recovered after month at hospital	living	none	X-ray during pregnancy transfusions p.p.
3_2	Allen (4)	1924	29 6 mos later	III	II	1st month 2nd pregnancy	6 wks	Hysterotomy	none	good	fatal	none	Hysterotomy Splenectomy
4	Birdsall Hubert Welchell (5)	1925	33	I	0	4 years previous	term	version and extraction	p.p.	good	stillborn	not known	Radium for menometrorrahgia 4 years previous. Transfusions during cyesis Intra-uterine radium and x-ray to spleen p.p.
5	Hesseltine (6)	1930	42	III	II	2 years previous	7½ mos	spontaneous	none	improved	living	enlarged liver and ascites	Splenectomy in 2nd trimester paracentesis p.p.
6	Smith Morrison Sladden (7)	1933	31	?		3 mos	term	spontaneous	none	good	living	heavy albumen last weeks of pregnancy	Splenectomy for rupture of spleen in third month
7	Fruhinsholz Michon (8)	1933	22	?		always had large spleen	term	low forceps	none	good	living	liver involvement with jaundice edema and albuminuria	Liver treatment and transfusion
8	Ashton (9)	1934	25	I	I	puerperal anemia during pregnancy	term	forceps	immediate p.p.	died 33 days post splenectomy	living	hobnailed liver	Transfusion p.p. and splenectomy 5 mos. p.p.
9	Larrabee (10)	1934	25	?		?	aborted	spontaneous	none	good	aborted	acites p.o. hobnailed liver	Transfusion and splenectomy post-abortal
10,	McKenzie (11)	1936	21	I		no signs	term	spontaneous	none	good	good		
10_2	McKenzie (11)	1936	21	II	I	immediate pp	term	spontaneous	none	good	good	mild toxemia	
10_3	McKenzie (11)	1936	23	III	II	see 10_2	term	spontaneous	none	good	good	gall stones scarred liver	Splenectomy at 3 months
11	Serbin (12)	1937	33	IV	I	2 months	8 mos	spontaneous	none	died 1 mo. p.p.	stillborn	enlarged liver multiple emboli to extremities, brain and pulmonary artery, pneumonia	Transfusion and splenectomy at 4 months
12	Serbin (12)	1937	23	II	0	Therapeutic abortion 1934 for splenomegaly	6½ mo.	Vaginal hysterotomy	none	died 3 mos p.p. at home	died ½ hr p.p.	thrombo-phlebitis, ascites	Splenectomy in 3rd mo. paracentesis Talmar operation

uary 16, she had a severe attack of right costo-vertebral pain radiating toward the bladder. A medical consultation was requested, and their only additional finding was a loud systolic murmur at the pulmonic area with a moderate apical systolic murmur. They felt that she had sepsis or pyelitis and a secondary anemia. On January 18, chest X-ray showed a marked increase in the lower lobe trunk markings with some patchy consolidation about the lower lobe markings. Both hilum shadows were moderately increased in prominence. Fluoroscopy and X-ray of the lungs on January 21 showed no change other than a marked increase in the prominence of the hilum lymph nodes. Fever and pulse elevation continued the same until January 24 when there was a drop to ninety-nine and ninety-six respectively which continued for the next two weeks. Blood and urine studies during this time were essentially the same except for a drop in hemoglobin to 61.6 per cent and a pyuria of 10-15 pus cells per H.P.F. with small and large clumps. Generally she was much improved, and her pain had almost disappeared. Her spleen had not enlarged any more, her liver was not palpable, and her pregnancy was progressing nicely. The only additional finding was a third heart sound at the apex. January 26 she had a marked cyanosis of the nail beds and lips, and was given 300 cc. citrated blood intravenously. January 27 there was definite evidence of fluid in the right chest posteriorly over the lower one-third. The following day 372 cc. of slightly cloudy, straw colored fluid were obtained by thoracentesis. This fluid was negative for Tb. bacilli on stained smear and culture, and the guinea pig innoculation was not of help because the pigs died of intercurrent infection. The same day she received 250 cc. citrated blood intravenously which was followed by a gradual drop in temperature and pulse to normal with rapid general improvement although the spleen had not diminished in size. Chest X-ray on February 14 showed no fluid and a marked clearing in the previously described process. She was discharged on the next day to be followed weekly in the prenatal clinic. Hemoglobin 71.4 per cent; R.B.C. 3,900,000; W.B.C. 6,400; polymorphonuclears 66 per cent with filaments 56, lymphocytes 29 per cent, monocytes 4 per cent, eosinophiles 1 per cent; platelets 200,000. Urine was the same. On readmission March 16, for a check, her heart was slightly enlarged, the right lung base did not expand well, and the spleen was slightly larger. Blood and urine were essentially the same. Chest X-ray was negative. She was followed in the prenatal clinic without mishap until June 3 when she came to the hospital in labor. She was delivered after thirty-one hours and fifty minutes of labor with nembutal gr. ivss and scopolamine gr. 1/150 sedation, by outlet forceps with episiotomy, of a living female child, weight five pounds eleven and one-half ounces, vertex R.O.A. The third stage was eight minutes long. There was no excess bleeding. Blood and urine showed practically no change during hospitalization. Puerperium was uneventful except for a mild endometritis. Sternal puncture showed hyperplastic marrow with preponderance of myeloid activity. Mother and child were both discharged in good condition on the fourteenth day. The liver was two fingers' breadths below the costal margin, firm, sharp edged and non-tender; the spleen reached just below the umbilicus. Two weeks', two and three months' follow-up examination showed her condition to be the same.

She was transferred to surgery for a splenectomy, which was done on September 24 under spinal anesthesia supplemented with ether. At operation the liver was enlarged and had many superficial cyst-like areas over its surface. Pathological report: Banti's disease. R.B.C. 4,600,000; hemoglobin 83 per cent; W.B.C. 5,100; polymorphonuclears 71 per cent, lymphocytes 20 per cent, monocytes 3 per cent, eosinophiles 6 per cent. She convalesced well except for a bronchitis, and at follow-up in September, 1939, she had no complaints, but her liver was still enlarged.

TABLE II—AGE OF PATIENTS

Age	No. Cases
1-10 years	0
11-20 "	1
21-30 "	6
31-40 "	3
41-50 "	2

The majority of the patients was between twenty-one and thirty years of life, and the next highest group was between thirty-one and forty years. This is explained by the fact that most women have their babies between twenty and forty years of age.

TABLE III—GRAVIDITY OF PATIENTS

Gravidity	No. Patients
I	3
II	3

III	3
IV	1
V	0
VI	0
VII	1

Gravidity of the patient apparently bears no influence on the susceptibility to splenic anemia. Parity follows gravidity except that chronic diseases or anemia predispose to abortions if allowed to become grave.

TABLE IV—ONSET RELATION TO GESTATION

Before conception	6
1st trimester	3
2nd trimester	0
3rd trimester	0
Puerperal	2

Six patients first noticed symptoms referable to splenic anemia before they conceived, three during the first trimester, none during the second and third periods, and two postpartum. It is not stated when one patient first noticed her symptoms.

TABLE V—PERIOD OF GESTATION AT DELIVERY

1st trimester	2
2nd trimester	2
3rd trimester	
7th month	1
8th month	1
9th month (term)	9

The discrepancy in the above figures is due to two of the patients having repeated pregnancies while they had a splenic anemia. During the first trimester one six weeks interruption was done because of the splenic anemia, and the other patient aborted spontaneously following a gastric hemorrhage. In the second trimester there were one four months and one six and a half months interruption because of the anemia. In the third trimester, there were eleven deliveries, one in the seventh month, one in the eighth month, and nine at term. There were no therapeutic interruptions during this period.

TABLE VI—HOW DELIVERED

1st trimester	1 abdominal hysterotomy
	1 spontaneous abortion
2nd trimester	1 vaginal abortion
	1 vaginal hysterotomy
3rd trimester	6 spontaneous deliveries
	3 low forceps deliveries
	1 forceps delivery
	1 version and extraction

In the first trimester there was one therapeutic abortion because of splenic anemia; in the second trimester both interruptions were therapeutic because of the anemia. In the third trimester there were six spontaneous deliveries, three low forceps, one unqualified forceps and one version and extraction.

TABLE VII—VAGINAL HEMORRHAGE

During pregnancy	0
Postpartum	2 within 2 hours
	1 delayed

Two patients hemorrhaged within two hours postpartum, and one had a delayed hemorrhage, making an incidence of 33.07 per cent. All three patients required transfusion. One of these patients required one month of hospitalization before she was able to go home; one died thirty-three days after splenectomy, five months postpartum; and the other required intrauterine radium and X-ray to the spleen to control hemorrhage.

TABLE VIII—RESULTS FOR MOTHERS

Recovered	9
Died	4

Three of the patients died, one during inspection of the cervix, one thirty-three days after splenectomy, done five months postpartum when it was found she had a hobnailed liver, and the other died three months postpartum after several paracenteses and a Talma operation done for ascites.

TABLE IX—RESULTS FOR FETI

Interrupted before viability	4
Stillborn	2
Living	9

Of the four patients whose pregnancy was interrupted before the period of viability, three were therapeutic and one spontaneous. Of the two stillborn feti, one was born at term and the other at eight months. Of the nine living offsprings eight were term pregnancies and one seven and one-half months.

TABLE X—COMPLICATIONS

Toxemias	2
Gall stones	1
Embolic phenomena	1
Pneumonia	1
Thrombophlebitis	1
Irritable colon	1

Two patients developed mild late toxemias, one had cholelithiasis, one had multiple emboli and pneumonia and died, one developed thrombophlebitis and one an irritable colon. Enlarged liver and ascites is not included here because it is considered as the third stage, or Banti's disease.

XUM

TABLE XI—TREATMENT

X-ray to spleen during pregnancy	2
Transfusions during pregnancy	3
Transfusions following delivery	2
Splenectomy before pregnancy	1
Splenectomy during pregnancy	
1st trimester	3
2nd trimester	2
3rd trimester	0
Splenectomy following end of pregnancy	3
Paracenteses	2

Two patients received X-ray therapy to the spleen during pregnancy. One of these underwent a therapeutic abortion and the other gave birth to a living child at term. Both mothers in this group recovered. Three patients received transfusions during pregnancy, and one of these also underwent a splenectomy a few days later. One patient receiving transfusions had a stillbirth at term, one had a term livebirth, and the third one had an eight months stillbirth. The first two mothers recovered, and the last one died one month postpartum of multiple emboli and pneumonia. The one patient having had a splenectomy five years previous to pregnancy gave birth to a living child at term, but she died during an inspection of the cervix.

There were five patients who underwent splenectomy during pregnancy, three in the first trimester, two in the second trimester. Of the three in the first trimester, two had livebirths at term, one gave birth, by vaginal hysterotomy, to a living child at six and one-half months, although it died in a half hour. The first two mothers recovered, but the third one died three months postpartum, the cause of death not being given. Of the two patients in the second, one mother recovered after a seven and one-half months livebirth; the other also had transfusions and had a stillbirth at eight months and died one month postpartum of multiple emboli and pneumonia.

Of the three patients undergoing splenectomy after the end of the pregnancy, one had a spontaneous abortion, one had a therapeutic hysterotomy at six weeks, and one gave birth to a living child at term. Two of the mothers recovered, and one died thirty-three days post-splenectomy, five months postpartum.

Both patients who underwent paracenteses were postpartum, and one of them underwent a Talma operation and later died.

COMMENT AND DISCUSSION

The rarity of the concomitancy of splenic anemia and pregnancy is well expressed by the fact that it is only mentioned as a possibility in most of the standard textbooks on obstetrics and in some it is not granted that much notice.

Its occurrence for the most part between the years of twenty and forty is because splenic anemia usually starts in youth and progresses, and most women have their families during the third and fourth decades of life.

Gravidity and parity bear no direct relation on the occurrence of splenic anemia, but splenic anemia might conceivably set up a sterility or low fertility in a woman having it just as any chronic debilitating disease might. For this reason it is important that once diagnosed during pregnancy prompt treatment be instigated and continued. Furthermore, it is generally thought that pregnancy aggravates the co-existing splenic anemia for two reasons: 1.—Pregnancy predisposes to anemia, and, 2.—Pregnancy is an added drag on the liver.[11, 12]

The symptoms referable to early splenic anemia are those of many uncomplicated pregnancies and secondary anemias. However, it is conceivable that a woman having splenic anemia with pregnancy would have more pronounced symptoms, but, with modern prenatal care, most cases would be diagnosed and treated early.

The method of delivery of a given patient will depend on the line of procedure chosen. If it is elected to interrupt the pregnanacy, the method will be contingent upon the stage of the pregnancy; if not, the patient should be carried to term and the type of delivery best fitted for that patient should be done.

The occurrence of vaginal hemorrhage seems to be limited to the postpartum stage, and the incidence is rather high, being 33.07 per cent. It is interesting to note that two of the three patients having hemorrhage were treated for the anemia during cyesis, one with X-ray to the spleen and one with transfusion. The reason for the hemorrhages is not the same as that for gastric hemorrhages. It is more than likely explained on the fact that chronic disease or anemia predisposes to postpartum hemorrhage. Berkeley[13] feels that splenic anemia predisposes to hemorrhage postpartum.

The gross mortality was 33.33 per cent; however,

only one of the three deaths was before the end of the prescribed puerperal period. It is purely a matter of conjecture whether or not these women would have died had not the splenic anemia been present. The outcome for the feti was no better. The mother of one stillbirth was splenectomized at four months and the other transfused during pregnancy. There were one spontaneous abortion and three therapeutic interruptions before viability. From the figures it is hard to judge what the outcome for the child is, although the stillbirth incidence is 13.3 per cent.

The complications were those that might occur during or after any pregnancy. Stander[14] states that one out of every eleven pregnancies has a toxemia of some degree. In this series there were two out of fifteen pregnancies which is a slight but not remarkable increase. Hesseltine[6] does not feel that splenic anemia predisposes to toxemia because his patient went to seven and one-half months when she delivered spontaneously without the occurrence of a toxemia.

The treatment should certainly be started early. X-ray to the spleen is certainly contraindicated, I believe, if it is elected to carry the pregnancy to term because of the possible harmful effects on the fetus. However, Snead[15] feels that the usual dose of splenic X-ray is too small to harm the fetus, and he is also of the opinion that splenic X-ray is of no value in splenic anemia. Of the five patients undergoing splenectomy during pregnancy, both mother and child were lost in two cases at or after delivery. In two of the four pregnancies therapeutically or spontaneously interrupted before viability, only one mother was lost. It seems more logical to me to interrupt the pregnancy and remove the spleen before another pregnancy occurs if splenic anemia is diagnosed a reasonable length of time before viability. An enlarging uterus and spleen will cause a great deal of discomfort, and the chances of splenic misfortune are added to those of the pregnancy. If the fetus is viable, carry the pregnancy to term and then conduct the delivery as best suited to the individual with all preparations having been made to combat hemorrhage. Berkeley[13] agrees with this thought. Regardless of the choice of procedure, the patient should be watched carefully, transfused whenever necessary, and the spleen removed as soon as possible after the end of the pregnancy, if it is elected to carry the pregnancy to term.

CONCLUSIONS

1. A case of splenic anemia complicated by pregnancy is reported and the literature reviewed.
2. Splenic anemia complicated by pregnancy is a rare occurrence.
3. The ages of occurrence of splenic anemia and pregnancy are the same.
4. Pregnancy aggravates the splenic anemia.
5. The symptoms of early splenic anemia and early pregnancy are similar, disregarding amenorrhea.
6. Splenic anemia predisposes to postpartum hemorrhage.
7. The gross maternal mortality was 33.33 per cent.
8. The stillbirth rate was 13.3 per cent.
9. Splenic anemia probably predisposes to toxemia.
10. The patient should be transfused as needed regardless of other treatment.
11. If splenic anemia is diagnosed before viability, the pregnancy should be interrupted. If diagnosed after viability, the pregnancy should be carried to term with all preparations having been made to combat hemorrhage.

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A CONSIDERATION OF PELVIC AND UTERINE ENDOMETRIOSIS.*

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Consideration of the problem of ectopic endometrial tissue should arouse the interest of every practitioner of medicine. Conjecture as to its mechanism of production, its varied and varying symtomatology, the pathology-production of its life cycle, and the different management and treatment required—all are challenges to our scientific approach, technical and diagnostic capabilities, and, probably most important of all, our clinical judgment. For the condition, although seldom life-threatening, is pain-productive, induces sterility, and in its end-results is disabling functionally and organically. The frequency of its occurrence and its insidious and often gradual onset suggest it as a potential cause of many obscure pelvic complaints.

Unfortunately, there is still considerable vagueness in the minds of many as to the nature and meaning of endometriosis and adenomyosis uteri. The former had been known and recognized for years, but it remained for Sampson in 1921 to so well correlate certain known pathologic facts with clinical aspects in outlining the life history of the subject, that his name and the name of "endometriosis" are nearly inseparable.

Adenomyosis uteri is sometimes referred to as *endometriosis interna*. Here we see the occurrence in the uterine wall of smooth muscle and endometrium in combination as a diffuse infiltrating process, grossly discernible as scattered knot-like masses, simulating small myomas. Microscopically and characteristically, these are collections of endometrial glands, ensheathed more or less by strands of hyperplastic smooth muscle, and hyperplastic cytogenous stroma. There is no definite capsule seen as in myoma, and these nodes are not separable from the musculature of the uterus. These endometrial growths are often seen very deep in the myometrium, but are always continuous with the rest of the endometrium, and represent deep down growths of the glands. This seemingly indicates that these uterine adenomyomas develop from post-fetal endometrial glands, rather than embryonal Müllerian rests. Where the adenomyotic uterine growths have no

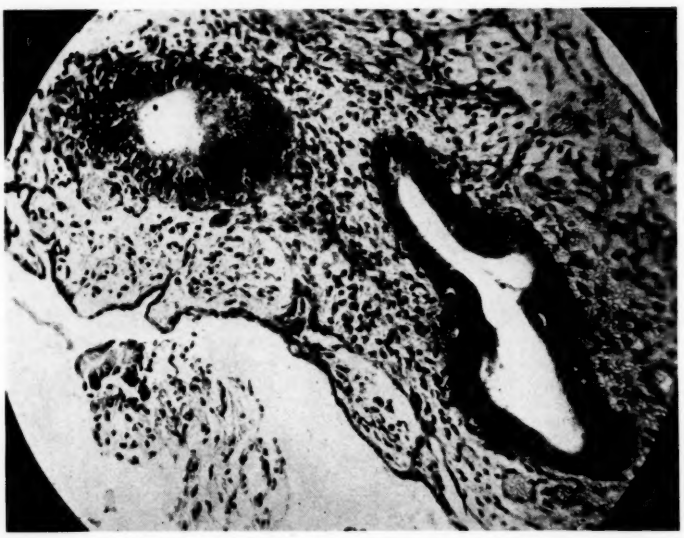

Fig. 1.—Endometriosis of ileum. Well formed endomentrial glands with surrounding stroma. Distinct endothelial surface with adhesions due to irritating inflammatory reaction. Glands show secretory activity.

From the Margaret Hague Maternity Hospital and Christ Hospital, Jersey City, N. J.

*Read before the Norfolk County Medical Society, at Norfolk, Va., May 24, 1940.

communication with the mucosal glands, a reasonable explanation as offered by Sampson may be accepted. Living mucosal fragments have been demonstrated to escape into uterine wall sinuses or lymphatics during menstruation. Such metastatic fragments may continue to grow and produce adenomyosis with no uterine cavity communication. These endometrial wanderers participate in a varying degree in the cyclic changes of the normal endometrium, but there is always intense active hyperemia in the islets, and frequently hemorrhage, during the menstrual phase.

Some prefer to separate the so-called "discrete adenomyoma" from adenomyosis interna, and look upon it as an uncommon, small to orange-sized, single lesion developing at the time of sexual activity from a fetal anlage. The result is a tumor grossly comparable to a fibromyoma but without capsule, and intimately connected to the surrounding myometrium.

Patients with adenomyosis interna usually have pre-menstrual and menstrual pain due to congestion and swelling, often with hemorrhage, in the islets of endometrium buried in the myometrium. There is generally menorrhagia, pre-menstrual enlargement of the uterus, and all occurring in the pre-climacteric years. These women have generally borne children, but a late secondary sterility is frequently noted.

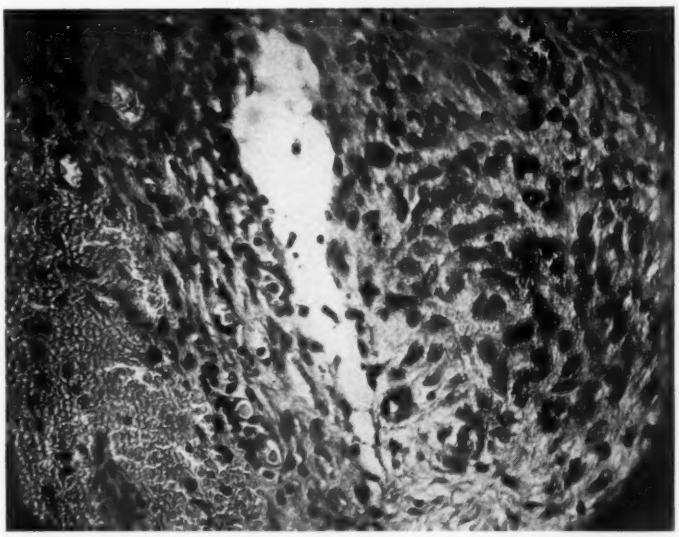

Fig. 2.—Marked decidual reaction surrounding an ectopic endometrial gland. Obvious hemorrhage with inflammatory reaction.

The possibility of ectopic endometriogenesis from the pelvic peritoneum, which was the anlage of the Müllerian epithelium, cannot be completely discounted, especially when considering subperitoneal adenomyosis of the uterus. More likely, however, is the mechanism of transtubal implants on the uterine serosa, with subsequent engulfing and subserosal isolation.

The histolytic action of endometrial tissue, which permits it to invade other tissues, seems to be derived from the cellular stroma surrounding the glands. This cytogenous stroma surrounding endometrial glands distinguishes it from other glandular structures, and is subject to ovarian endocrine influence. It appears almost without exception not only in the adenomyotic uterine lesions, but in the heterotopic growths presently to be discussed.

In adenomyosis, the uterine enlargement is seldom marked, rarely exceeding grapefruit size. The diffuse nature of the lesion generally produces a symmetrical enlargement, but more discrete growths often produce knot-like masses simulating myomas. Co-existing true fibromyomas are frequently seen, but easily distinguishable on cut surface from adenomyomas.

It is of interest that adenomyosis interna does not respond to hormonal stimulation as notably as ectopic endometriosis.

The treatment for adenomyosis is surgical; curettement and radium therapy are generally inadequate. Nearly 10 per cent of uteri removed after forty years of age are found to contain adenomyomas, about

2 to 3 per cent contain a concomittant malignancy, and nearly half of these patients will have had a previous pelvic operation.

ENDOMETRIOSIS

For clarity, it may be advisable to consider first the three types of ectopic endometrial pathology as considered by Sampson.

The most common type and location of endometriosis is peritoneal or subperitoneal. A second type is ovarian endometriosis, which is most commonly

Fig. 3.—Endometriosis of the recto-vaginal septum. Typical structure and stroma. "Menstruate" and fill with blood—seen vaginally as sub-epithelial, often blue-domed cysts, and easily palpable in back of cervix.

allied to peritoneal endometriosis, and, third, extraperitoneal endometriosis, occurring outside of the peritoneal cavity; e.g., the rectovaginal septum, the umbilicus, in the round ligaments and the groin, etc.

The theories concerning the origin of this ectopic uterine mucosa are of considerable interest, and will bear brief mention, although no one is completely satisfactory.

The most commonly accepted theory of endometriosis is that of Sampson, who believes it due to reimplantation on the peritoneal surfaces of endometrial tissue cast off at menstruation and disgorged through the tubes.

The regurgitated cells lodge and grow upon the ovary, and from there spread to other pelvic viscera and peritoneum, forming localized adenomata which react to the hormonal stimulus of menstruation as does normal endometrium, and may produce recognizable hematomata of varying size. A deep invasion of the ovary will produce a so-called "chocolate cyst" which must eventually rupture to spread its endometrial lining to further structures, there to continue the cycle. The escaping contents set up a marked irritative process, with resulting dense adhesions. As already noted, Sampson further believed that endometrial cells could and would metastasize through lymph channels, and possibly even through venous channels.

It is difficult to explain all sites of endometriosis upon Sampson's theory but for the majority of cases it is the most acceptable. Novak disbelieves all of this. He doubts that cast off endometrium can grow, even if one hypothesizes retrograde tubal menstruation. The latter should be mechanically difficult for it predicates the successful migration of endometrial pieces backward through the tortuous lining of the tube. However, Jacobson, Dossena, Szenes and others have been able to produce endometriosis experimentally, using endometrial tissue.

Von Recklinghausen in 1896 proposed the Wolffian body remnants as the cause of adenomyomatous lesions.

The serosal theory (Meyer) is based upon the demonstration that epithelial heterotopy can occur in the peritoneal serosa with transformation to cylindrical or cuboidal cells. The peritoneum, under influence of inflammation and possible endocrine activity (Novak) can alter the character of its latent cells. The connective tissue about a peritoneal inclusion can be excited to a hyperplasia that suggests the cytogenic stroma of the uterine mucosa.

It is true that the cœlomic mesothelium is the common ancestor both of the peritoneum and genital epithelia. It is possible that the developmental potentialities of the less differentiated structures, such as the pelvic peritoneum, may be aroused in adult life by unusual endocrine stimulation, with resulting metaplasia into endometrial epithelium.

There are certain observers (Cullen, Norris, Janney, Blair, Bell) who believe endometriosis to be due to aberrant portions of the Müllerian duct, pointing to the anatomic association and embryologic origin of both duct and ovary from the cœlomic mesothelium—the so-called Müllerian or cœlomic theory.

Halban (and in some instances, Sampson) thinks that the condition is due to endometrial metastases

via the lymphatics, while Schiller thinks a metaplasia of the endothelial lining of the lymphatics is the answer.

However this may be, the misplaced endometrium is derived from either (1) true endometrial or Müllerian tissue, derived from tubal or uterine mucosa (heterotopy), or (2) endometrial tissue, arising from a metaplasia of the peritoneum or from other sources (cytogenesis).

PATHOLOGY

Histologically, the misplaced endometrial tissue is like that of the uterine mucosa, the reaction against it is like that seen and described above in adenomyosis, and it is governed by the same physiobiologic laws that control uterine mucosa in its cyclic changes, and in pregnancy, lactation and menopause. This recognition of its response to ovarian influence is essential in understanding its pathologic physiology.

Upon the ovaries are seen some of the most striking changes. There may be small surface adenomas, seen as small red or purplish bodies, or puckered blue-spot areas, multiple and in various sizes, on one or both ovaries. The ovaries are usually adherent, a manifestation of the irritating nature of the lesion. When the ovarian lesion is deep-seated, then through successive hemorrhagic cycles accompanying physiologic menstruation there is accumulated an ever-increasing content of intracystic blood, which through hemolysis and concentration becomes thick and tarry—the chocolate cysts of endometriosis.

Adhesions are dense, the spread is wide, and little wonder that in former years these lesions were frequently considered inoperable carcinoma.

The invasion of small intestine, sigmoid and other structures simulates malignancy, although the lesion is not histologically malignant. The epithelium is, however, subject to the same malignant changes as normal uterine mucosa, and such changes have been noted and recorded. It is more than likely that a large number of ovarian adenocarcinomas arise from malignant change occurring in endometrial implants in the ovary.

Vaginal endometriosis or adenomyomas of the rectovaginal septum are often seen, and are generally directly continuous with culdesac peritoneal endometriosis. These present a definite clinical entity, for they are directly in back of the cervix, are tender, respond to hormonal changes, and histologically present the picture described for all adenomyomas.

All of the ligaments touching the uterus have been found to contain endometriomas; likewise the umbilicus and abdominal wall, the latter especially after operations involving an opening into the *fundal portion* of the uterus, as in high or classical cesarean sections. Also, the inguinal regions and even the perineal region (Palmer) have been noted as sites for endometriosis. Even the appendix (Curtis) has been involved.

In a recent case, I found three endometrial lesions involving the distal ileum, about six inches apart and partly constricting the bowel. This was part of an endometriosis which combined the picture of advanced ovarian and pelvic peritoneal endometriosis, with adenomyosis interna and uterine fibroids in a nullipara of twenty-four years—a rare combination at that age.

CLINICAL PHASE

While I have operated upon approximately ninety patients with endometriosis, the most recent eighteen cases encountered in the past two years have been chosen for close scrutiny. These were all private cases and therefore submitted to more careful study, and all have been followed to date.

Typically, endometriosis is seen in women during active menstrual life, between twenty-five and forty, usually married, usually sterile, although half will have had one or more pregnancies. There is often complicating pathology.

Uterine fibroids are frequently accompanists, one-third in this series. Adenomyosis of the uterus was demonstrated pathologically in 60 per cent of these cases.

Abdominal pain is the most common complaint, varying from distress and heaviness to acute pain accompanying or preceding the menstrual flow. Backache is occasionally noted; two patients in a group of eighteen cases, who had rectovaginal endometriosis, complained of backache, abdominal distress and pressure, and painful bowel movements at catamenial periods.

Of the various menstrual disturbances, menorrhagia was most common, and seen in one-half of the cases. Dysmenorrhea, usually of the acquired type, and frequently pre-menstrual, with menstrual exacerbation, was noted in one-third of these patients. Constipation was a common complaint, but hard to evaluate as a specific correlated symptom. All of my patients were white.

XUM

While there are no constant physical findings, a persistent painful retroversion in a sterile patient, associated with menorrhagia, backache, adherent ovaries, ovarian cysts and tender utero-sacral ligaments, in the absence of other pelvic inflammation, is extremely significant. A swollen ovary, chocolate cyst, or matted pelvis may be palpable. Shotty nodules in the culdesac, or blue cystic nodules in the posterior vaginal fornix are nearly positive evidence of endometriosis. As might be expected from the pathology and area of involvement previously described, the symptoms will depend not only upon the extent of the inflammatory reaction and adhesions but also the manner in which the various organs are involved.

Dyspareunia is commonly complained of, with subsequent loss of libido. Sacral backache indicates utero-sacral and pelvic spread with lower abdominal distress. Lesions will be observed to grow rapidly, in certain instances, after laparotomy, tubal insufflation, and intrauterine manipulations near the time of menstruation.

TREATMENT

Prophylactically, pelvic examinations, tubal inflation tests, douches, curettages and intrauterine manipulations should not be done near menstruation.

Since endometriosis is a condition found in young women, conservative surgery is generally indicated, even though re-operation may be required subsequently. Conservative operations not infrequently may be expected to fail, since the pseudo-malignant, locally invasive and metastatic nature of the lesion, persisting as long as ovarian activity remains, of necessity constitutes a hazard. Total ablation of the pelvic viscera is rarely justifiable in a young woman. With few exceptions, radio-therapy should not be employed, since extensive adhesions and cicatricial changes account for some of the most distressing symptoms. Radiation furthers these changes and increases the discomfort, although castrating doses will effectively check further endometrial activity. Even more important is the possibility of error in diagnosis, with the actual pelvic pathology due not to endometriosis, but to tubercular infection, cancer, or some other lesion which could not be helped by radiation. Small tarry cysts and replacable retroversion are amenable to conservative procedures, although separation of the extremely dense adhesions increases the operative hazard.

In advanced cases with hopeless pelvic involvment, extirpation of the ovaries will prevent further extension and cause complete atrophy of the endometrial tissue. It will not undo the cicatricial damage nor adhesions already present. The most feasible approach is surgical, with restoration of visceral relationships if possible, extirpation of large grumous cysts, and ablation of uterus and ovaries when obviously necessary. The exceptions are rectovaginal and bladder endometriomas not associated with demonstrable ovarian or intrapelvic lesions. Here, obliteration of ovarian function by radiation is advised. Post-operative endometrial fistulae and umbilical and scar endometriomas are widely excised.

Associated bladder symptoms or symptoms of pyelitis are not common, but should induce a careful observation, cystoscopy and pyelography before any operation.

In conclusion, let us remember in dealing with ectopic or misplaced endometrial tissue that we are dealing with a histologic structure comparable in histology and physiology with normal uterine mucosa, and subject to the same biologic laws and hormonal stimulation; that the pathologic changes induced are due largely to the elements of spread by contiguity and fibrous tissue response to irritating "tissue-menstruation". And, finally, that treatment depends not only upon the extent and manner which the pathologic process manifests itself, but also upon the marital, social and extra-pelvic physical status of the patient herself.

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SURGERY OF THE BILIARY TRACT.

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Surgery of the biliary tract is at the present time one of the most common and successful types of surgery. The first gall-bladder was removed presumably by Langenbeck in 1882.[1] Within a short period cholecystectomy and cholecystostomy became accepted methods of treating gall-bladder disease. The mortality rate in those early years was rather high and there were frequent unexplained deaths. Improvements in technique, better understanding of liver function, more perfect diagnostic aids, and adequate pre- and post-operative care have in recent years brought down the mortality until it now compares favorably with surgical procedures of much smaller magnitude.

We will discuss a few of the impressions which we have gained from the surgical treatment of almost one hundred cases of biliary tract disease during the past few years. In this series there were no deaths.

Diagnosis: It may appear trite to say that accurate diagnosis is based primarily on a carefully executed history and physical examination. It is none the less true. Of the laboratory aids, cholecystography ranks first and is accurate in better than 90 per cent of the cases. It may occasionally lead to error, as in one of our cases in which a rupture of the gall-bladder occurred three months after normal function was reported on X-ray. We have used cholecystography in acute and subacute cholecystitis with no ill effects, but its use in such cases is rarely necessary. Flat roentgenograms will show stones or calcium deposits in the gall-bladder with surprising frequency and are a valuable diagnostic aid.

Blood counts and urinalyses should be done but are frequently of little value. The icteric index and Van den Bergh tests for increased bilirubin in the blood are of value in detecting early jaundice or in estimating the degree of jaundice when it is clinically present. The cholesterol level of the blood is usually high in cholecystitis but this test is not of great value. Bile salts from the duodenum which contains cholesterol crystals or calcium bilirubinate in quantities is considered by some authorities to be of considerable significance. We have found it of little value.

We seldom do liver function tests unless jaundice is present or unless there is other reason to suspect liver damage. There are no tests of great diagnostic value in detecting the minor grades of liver damage frequently seen in association with gall-bladder disease. In severe liver damage the galactose test, the bromsulphalein test, and others may be of some value in prognosis.

In the differential diagnosis of biliary tract disease, the conditions most commonly confused with an acute attack are acute appendicitis, perforated ulcer, acute pancreatitis, renal colic, diaphragmatic pleurisy, and coronary occlusion. These may usually be ruled out by available diagnostic procedures. One of the most difficult to differentiate and one in which the consequences may be most serious is coronary occlusion. It should always be thought of in middle aged or elderly individuals with acute abdominal pain. Electro-cardiography is frequently of value in the diagnosis. It must be remembered that cholecystitis and coronary disease may be present in the same individual.

Treatment: In our opinion cholecystitis is always a surgical disease and medical treatment is often a myth. Some internists are at present divided on the question of whether a low fat, low cholesterol diet with saline purgatives should be given or whether treatment should be just the opposite. Neither will give any permanent relief and the delay but serves to increase the liver damage already present.

"Silent stones" in a young or middle aged individual in good physical condition should be an indication for operation, even when symptoms are not present. Complications later in life from these so-called "silent stones" are frequent and these complications come at a time when the patient is not so well prepared to withstand surgery.

Operation: We do not consider acute cholecystitis a surgical emergency, but neither do we wait for the condition to become chronic before operation. Operation is performed as soon as the patient can be properly prepared which is ordinarily twenty-four to forty-eight hours after admission to the hospital. We believe the dangers of perforation, obstruction,

XUM

and liver damage in delay by far outweigh any slight additional risk in immediate operation. As a matter of fact, the patient in whom an acutely inflamed gall-bladder is removed usually has as smooth a convalescence as the one in whom cholecystectomy is performed in the chronic stage. In common duct obstruction, early operation is especially important. In all cases of acute biliary tract disease, we are now operating much earlier than in former years.

We use spinal anesthesia routinely for operations on the biliary tract. Pantocain 2 cc. is given at the level of the eleventh or twelth dorsal interspace. This is combined with splanchnic block and local infiltration of the parietal peritoneum.

The gall-bladder is removed routinely where acute or chronic cholecystitis is found. We regard it an error of judgment to remove a normal-appearing, normally emptying gall-bladder because the patient's symptoms or the X-ray suggested gall-bladder disease. It is far better to close the abdomen and admit that a mistake was made. The gall-bladder, unlike the appendix, is an important physiological structure and should not be removed without justification.

The indications for exploration of the common duct have been well stated by Lahey,[2]

(1) Where there is jaundice;

(2) Where the common duct is dilated;

(3) Where the gall-bladder is thickened and contracted;

(4) Where the head of the pancreas is thickened, for here stones may be present at the ampulla of Vater.

We have found it necessary to explore the common duct in approximately 35 per cent of cases operated on for biliary tract disease. The exploration slightly increases the operative risk and we feel that it should not be done routinely. Before opening the duct, it should be carefully palpated by placing a finger through the foramen of Winslow. If a stone is palpated, it can be manipulated into a favorable position and a small longitudinal incision made directly over the stone. This maneuver increases the safety of opening the duct. In other cases the duct, which lies in the most lateral margin of the hepaticoduodenal fold, is identified by aspiration with a fine needle before opening. Exploration is done with a flexible bullet probe, curved forceps, or a small rubber catheter, or all three. We have never found it necessary to use a transduodenal approach for a stone impacted at the ampulla, and we feel that this approach greatly increases the operative risk. Where the head of the pancreas is swollen, a stone at the ampulla can usually be palpated against the bullet probe and can be dislodged to a more favorable position; or it can be approached from behind the duodenum by incising the peritoneum laterally. Exploration should be extended up the hepatic ducts before closing and not infrequently one or more stones will be encountered in these branches. Following exploration of the common duct, it is always drained by a flexible T-tube. The lateral arms of the tube are trimmed to about one-half inch and the duct is snugly closed about the long arm after its insertion. The finest possible chromic suture on an atraumatic needle should be used in closure. The long arm of the tube is passed through an opening in the omentum and brought out through a stab wound in the right hypochondrium.

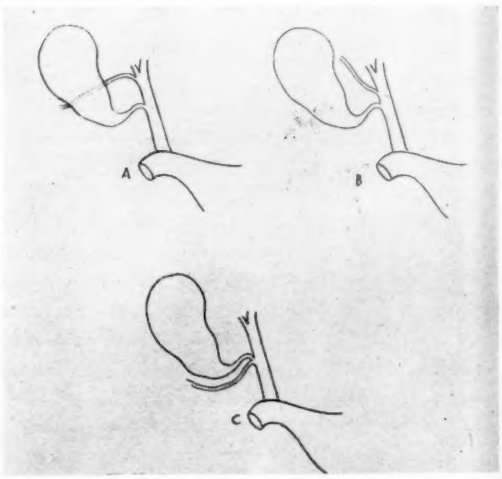

Fig. 1.—Congenital anomaly of the hepatic ducts. Ligature of the large hepatic duct "C" with the cystic duct might be fatal. (Spivack, "Surgical Technique of Abdominal Operations", S. B. Debour)

Cholecystostomy in the treatment of cholecystitis is used only where the patient's condition is too critical to warrant removal of the gall-bladder. It is rarely indicated. Common duct drainage is usually preferable to cholecystostomy in treating cholangitis and in pancreatitis.

Cholecystoduodenostomy is the procedure of choice for relief of obstruction due to carcinoma at the head of the pancreas. It is usually not a technically difficult procedure and gives temporary relief in this hopeless condition.

Drainage of the abdomen following operative procedures on the biliary tract is seldom done. A small amount of bile spilled in the peritoneal cavity apparently produces little reaction and is not an indication for drainage. On the other hand, if there is any doubt as to the security of ligatures or the possibility of small accessory ducts in the gall-bladder bed which are not ligated, it is better to drain. Anomalies of the cystic artery and hepatic ducts should always be borne in mind in any operative procedure (Figs. 1, 2, 3).

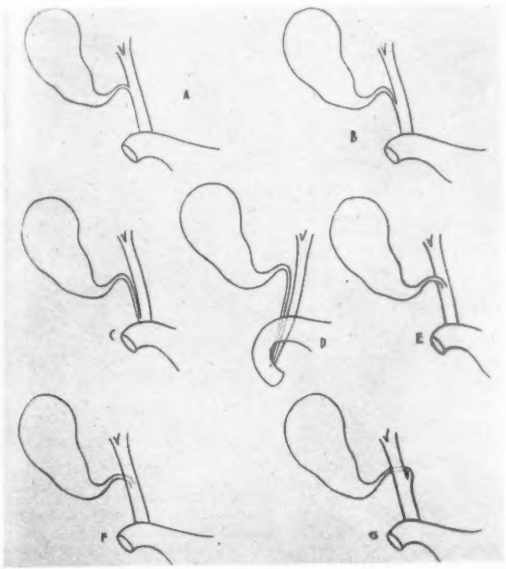

Fig. 2.—Variations in the course of the cystic duct. The cystic duct should always be dissected out and carefully exposed before ligature. (Spivack, "Surgical Technique of Abdominal Operations", S. B. Debour)

Pre- and Post-Operative Care: In gall-bladder disease, we attempt to build up the glycogen reserve of the liver with abundant glucose before operation. This, in our opinion, is the most important single step in the pre-operative care and to it in large measure we attribute the absence of any so-called "liver deaths" in our experience. Both oral and intravenous routes of administration are used. A minimum of 3000 cc. of 5 per cent glucose should be given intravenously in the twenty-four hours prior to operation. When possible the serum protein and sodium chloride levels of the blood should be determined. The amount of saline solution administered both pre- and post-operatively should be regulated by the sodium chloride levels of the blood, rather than by guesswork. One thousand cc. of normal saline solution contains 8.5 gms. of sodium chloride. This is sufficient for a patient under ordinary conditions for a twenty-four hour period. Where vomiting is present or where continuous gastric lavage has been instituted, we have found that 10 to 15 gms. of sodium chloride may be lost in the stomach contents over a twenty-four hour period. This loss, as well as that from other sources, must be made up. A low serum protein is a definite indication for transfusion of blood or preserved plasma. Only recently has the serum protein level of the blood been given the place of importance it deserves in surgery and its significance can scarcely be over-emphasized.

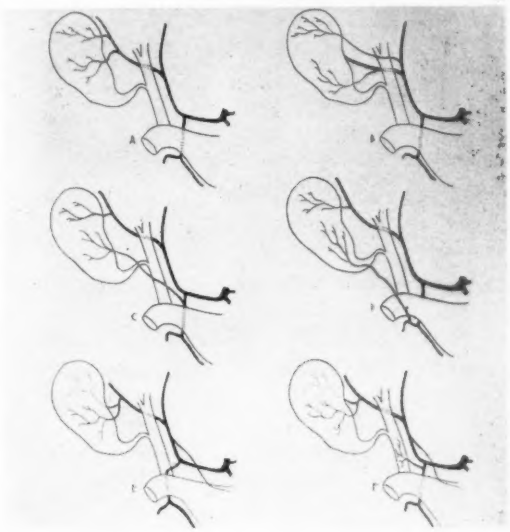

Fig. 3.—Variations in the course of the cystic and hepatic arteries. (Spivack, "Surgical Technique of Abdominal Operations", S. B. Debour)

All jaundiced patients are matched for blood transfusion and are usually given 500 cc. of blood prior to operation. It should be noted that preserved blood from the refrigerator is unsuitable or at least is far inferior to fresh blood in preventing post-operative hemorrhage.

Vitamin K in combination with bile salts from both experimental and clinical evidence offers specific relief from the hemorrhagic tendency found in jaundiced patients. Vitamin K is normally present in the diet in abundance but its absorption from the intestinal tract is prevented by absence of the bile salts. It is a necessary factor in maintaining the normal prothrombin level of the blood and prothrom-

bin is an essential factor in the clotting process. The most potent available form of Vitamin K known is 2-methyl-1, 4-naphthoquinone and represents one of the very few instances of a synthetic product more

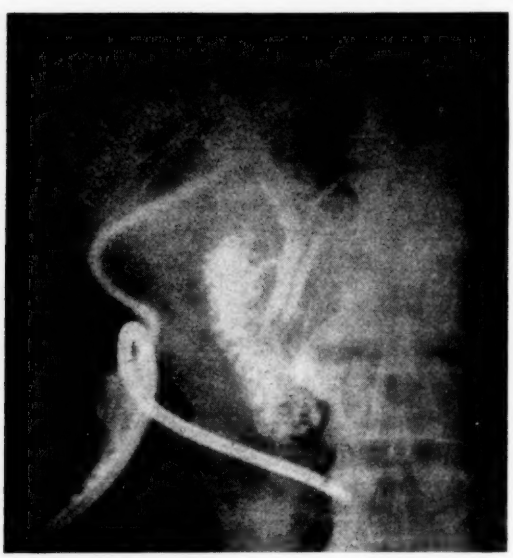

Fig. 4.—T-tube in the common duct and an enterostomy tube in the upper jejunum for return of bile to the intestinal tract. This is desirable where very prolonged drainage is anticipated as in this case. Note that the pancreatic ducts are filled by the contrast media. The solution also passes readily into the duodenum.

potent than the natural one. It may be administered orally or intramuscularly in corn oil.

Following operation, at least 3000 cc. of 5 per cent glucose is given intravenously each twenty-four hours. One thousand cc. or more of this is given in normal saline. Morphine or dilaudid is used for relief of post-operative pain sometimes combined with atropine or syntropan. All patients are turned frequently from the time they are returned to bed. Continuous gastric lavage is used for gastric distention and for nausea or vomiting but is seldom necessary. Prostigmin 1/4000 is used every four hours in an occasional case to prevent or control abdominal distention. Fluids by mouth are given the day of operation and food as soon as it can be tolerated, especially carbohydrates and protein.

A T-tube is never removed from the common duct until the character of bile approaches normal. The minimum is two weeks following operation but usually it is six to ten weeks or even more. X-rays are always made to demonstrate patency of the ducts before removing the tube and to eliminate the possibility of an overlooked stone. Where prolonged drainage is carried out, the bile is returned to the intestinal tract through a stomach or enterostomy tube (Fig. 4). The biliary fistula usually closes in twenty-four hours after the removal of the T-tube. We have never known a stricture to develop from its use.

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THE PATCH TUBERCULIN TEST— A Study on Ninety-Six Cases.*

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The object of this paper is to review the literature pertaining to the tuberculin patch† test described by Vollmer and Goldberger in 1937, and to present the results obtained when the patch and Mantaux tests were performed simultaneously on ninety-six children.

METHOD

The testing material or patch consists of a thin filter paper saturated with undiluted tuberculin produced from a synthetic medium. This is dried and cut into one cm. squares and placed on adhesive tape 2.5 by 7.5 cm. Each adhesive strip contains two of such patches on each side of a center control filter paper saturated with glycerin broth. Crinolen is used to protect the adhesive side.

The patch is applied on a hairless skin area such as over the sternum, inner side of the forearm, or upper part of the spine. The cutaneous region is cleansed with acetone, the patch carefully applied, and the adhesive sealed. This is left on for forty-

*Read before the Roanoke Academy of Medicine.
†Material supplied by Lederle Laboratories, Inc.

eight hours, during which time bathing is forbidden. The test is read forty-eight hours after removal of the patch to allow the reaction due to the adhesive to disappear and that due to the patch to intensify. A positive reaction appears as "a sharply defined, indurated, reddened square with lichenoid, follicular elevations on the skin". The intensity of reaction varies from a slight follicular elevation and redness to a spread of reaction beyond the square with blister formation.

REVIEW OF LITERATURE

Vollmer and Goldberger first studied the patch test in relation to the Pirquet test. There was conformity between the two tests in 187 or 89.5 per cent of their series. Of the twenty-two non-conforming cases, seven were negative with the patch test and positive with the Pirquet test, whereas the reverse was found in fifteen cases.

The same authors found the patch test to be more sensitive than the Mantaux test, using first strength P.P.D. and 0.1 mg. old tuberculin when the two tests were performed on 535 children admitted to the Mount Sinai Hospital and 130 tubercular children at the Sea View Hospital. Conformity between the patch and Mantaux tests, using 1 mg. old tuberculin and second strength P.P.D., was almost 100 per cent.

Steward found the patch test to be more sensitive than the Mantaux test, using 1:1000 dilution of old tuberculin in ninety-six cases. The results reported by Hughes show the patch test superior to the intradermal with first strength P.P.D. in 100 cases, but not as sensitive when second strength P.P.D. was used. Both of these authors comment on the ease of administration of the patch test and the absence of constitutional reactions in patients upon whom the test was performed. Hughes pointed out that a positive reaction with second strength P.P.D. was always mild when the patch test was previously negative,

Fig. I.—Positive reaction using the patch tuberculin test.

whereas the reaction was often severe with necrosis, lymphangitis, and axillary adenitis when the Mantaux with first strength P.P.D. was formerly negative. This is due to the fact that the difference in sensitivity between the patch and Mantaux tests,

TABLE I

AUTHOR	NO. OF CASES	CONFORMITY	NON-CONFORMITY	PATCH MANTAUX	PATCH MANTAUX	REMARKS
Steward	96	93.75%	6.25%	0	6.25%	1:1000 O.T.
Vollmer & Goldberger	417	413	4	0	1	0.1 mg. O.T. 1 case each of: Patch Mantaux
Vollmer & Goldberger	251	249	2	1	1	P.P.D. 1st & 2nd strength and 1 mg. O.T. used.
Hughes	100	89	11	0	11	P.P.D. I used. All 11 positive with P.P.D. II.
Peck & Wegman	319	246	73	55	18	P.P.D. I used. All positive with P.P.D. 2nd strength. 880 children used.

using second strength P.P.D., is much less than that between the intradermal tests with first strength and second strength P. P. D. Taylor reported that the patch test is more sensitive than the Mantaux test with 1:1000 old tuberculin in young adults and less sensitive in persons over fifty years of age.

Peck and Wegman found the patch test unsatisfactory after comparing it with the Mantaux test, using purified protein derivative first and second strength in 880 children. They concluded that "a negative patch test does not by any means eliminate the possibility of a positive reaction to tuberculin and that the patch test alone is unsuitable as a screening method for finding the reactors in a school population."

PERSONAL EXPERIENCE

Ninety-six children between six months and seventeen years of age were tested simultaneously with the patch and Mantaux test, using a 1:5000 dilution of old tuberculin. The patch was applied over the sternum in all but the first eight cases when it was applied over the inner surface of the upper forearm. The dilution of old tuberculin used in this series is that used routinely to find positive reactors in the city of Roanoke. Approximately fifteen of the children had previously reacted positively to the Mantaux test. The remainder were new cases having either a questionable or definite tuberculous contact. In reading the tests, a few lichenoid effervescences with the faintest erythema in one patch was considered suspiciously positive.

Of the ninety-six cases, the results of both tests coincided in 74 or 77.08 per cent of the cases, but did not in 22 or 22.92 per cent (see Table II).

TABLE II

	CASES	PERCENTAGE
Conformity	74	77.08
Non-conformity	22	22.92

Table III gives a further analysis of the results. Twenty-nine cases reacted positively to both tests and the results were negative with both in forty-five cases. We were unable to have negative reactors return for retesting with a stronger dilution of old tuberculin. Three children showed a positive intradermal reaction and a negative patch. Of eighteen cases reacting negatively to the Mantaux test, nine were positive with the patch test and nine were suspiciously positive. We were able to retest six of the latter nine with a 1:50 dilution of old tuberculin and four showed a definite positive reaction.

TABLE III

CASES	MANTAUX TEST; 0.02 MG. O.T.	PATCH TEST
29	+	+
45	—	—
9	—	+
9	—	±
1	±	+
3	+	—
Total 96		

One case negative to both tests but two months later reacted postively to patch and 2 mg. O.T.

These results show that the patch test is definitely superior to the intradermal test using a 1:5000 dilution of old tuberculin as a testing material. This dilution is not sensitive or strong enough to find tuberculin reactors in a community. This latter point is further borne out by the fact that several of the children giving a definitely negative test with the intradermal test, but positive with the patch test were found, when X-rayed, to have childhood tuberculosis. Two of these children had to be placed in a sanatorium. These figures gain greater values when one realizes that this is a small series of ninety-six children.

Of the three cases showing a negative patch and a positive Mantaux test, one was not read until 120 hours after removal of the patch and another was placed on the inner side of the arm instead of over the sternum. Only one of these cases was X-rayed and there was no evidence of chinical tuberculosis.

There are other advantages of the patch test over the intradermal. There is no necessity for hurting a child with a needle. This was emphasized by the quietness prevailing when the patch was applied and the crying when the Mantaux test was done. In one of the cases not reported, the mother refused to "let her child be stuck" for the Mantaux test, but offered no objection to the patch test. The patch test is much easier and simpler to perform than the Mantaux test. Although the constitutional reactions resulting from the two tests were not studied in this series, previous studies failed to find any with the patch test. The only disadvantage was the fact that the patch, on

several occasions, was removed before forty-eight hours.

The patch test should enable the physician doing rural practice to test children he would be unable to do with the Mantaux test. He can keep a few patches in his bag since it is not necessary to keep them on ice, and the test can be done at any time he should visit a patient.

CONCLUSIONS

1. The patch test proved to be superior to the Mantaux test, using 1:5000 dilution of old tuberculin in finding tuberculin reactors in a series of ninety-six children between the ages of six months and seventeen years.

2. The patch test alone should not take the place of serial tuberculin testing. Whenever it is possible, especially in hospital cases and diagnostic clinics, the patch test can be done first, but this should be followed by a Mantaux test, using at least 1 mg. of old tuberculin or second strength P.P.D. Even in mass tuberculin testing, a child showing a slight follicular elevation and the faintest erythema under one of the patches should be retested with a strong dilution of old tuberculin or second strength P.P.D.

I wish to express appreciation to Miss Florence Deyerle of the Health Department of the City of Roanoke for her cooperation and aid.

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SULFANILAMIDE IN THE TREATMENT OF ACUTE MASTOIDITIS.

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So voluble is the literature concerning sulfanilamide therapy it would seem amiss to attempt any comprehensive digest in this paper. Suffice it to say that acute middle ear suppuration and early acute mastoiditis are not nearly the problem they were six or seven years ago.

In a limited experience we have found in scores of cases of acute otitis media, where more conservative methods of treatment had failed, that early paracentesis of the ear drum plus sulfanilamide therapy resulted in prompt and dramatic cure.

However, during the past eighteen months, we have had four cases, two children and two adults, who had developed acute mastoiditis before or during the course of the above treatment. Of these, only one, a girl eighteen years of age, came to operation (simple mastoidectomy), after which uneventful recovery promptly occurred.

Before turning to our brief case reports I wish to call your attention to a few interesting observations of authoritative source. The Johns Hopkins group who pioneered the use of sulfanilamide in the United States has pointed out that sulfanilamide and its derivatives should not be used to the exclusion of supplementary methods of treatment[1]. Adequate diet, vitamin intake, preservation of a normal electrolyte pattern in the blood, and the use of surgical procedures, where necessary, demand careful consideration for best results. For a resumé of conditions under which it is *imperative* to stop the drug, or *advisable* to stop it, or where it may be *maintained* despite certain toxic reactions, one is referred to the report of the Hopkins group. Of course, blood determinations and urinalyses in addition to bedside observations are of prime importance where sulfanilamide therapy has been instituted.

As a refinement, it is also shown that in the treatment of otitis media and acute mastoiditis of pneumococcal etiology sulfapyridine is far more effective than sulfanilamide; whereas, in the same infections of hemolytic streptococcal origin the reverse is true. Neoprontosil is not recommended in either case.

Alpert and Forbes[2] stress the importance of prolonged sulfanilamide therapy in streptococcal infections, such as otitis media, cervical adenitis, sinusitis and mastoiditis if relapses are not to be anticipated. It was noted that relapses occurred in about 7 per cent of 200 cases of children treated with sulfanilamide.

"Disappointments" in the use of the drug were reported by Charles T. St.Clair, Sr.,[3] attributable to not keeping up the treatment an adequate length of time. Continuance of sulfanilamide one or two weeks after the subsidence of symptoms seems indicated.

David Davis, agreeing that sulfanilamide and its derivatives have cut down the number of mastoidectomies which the average otolaryngologist is called upon to perform, is of the opinion that[4] sometimes the drug has a masking effect on early mastoiditis and that subsequent operation may be necessary. However, in this connection, Horan and French, reporting 621 cases of acute suppurative otitis media treated with sulfanilamide, state that[5] "no observations suggested that sulfanilamide predisposed toward the encysting of infection and the consequent formation of a chronic otitis, in which condition the drug has no value".

REPORT OF CASES

The first patient, an eighteen-year-old girl, complained of acute coryza and intermittent left earache for four days. Examination showed the left eardrum hyperemic and bulging. Myringotomy was performed and bichloride of mercury 1/5000 irrigations prescribed. Two days later the patient returned to the office complaining of neuralgic pain about the left ear. Her temperature was 100.5. She was immediately hospitalized and placed on sulfanilamide medication. Following the classical symptoms and signs of early acute mastoiditis, an X-ray four days later showed definite mastoid involvement. Another two days ushered in a temperature of 101 with chills and pain localized to the left zygomatic region and mastoid tip. The W.B.C. was 12,000. A simple mastoidectomy, left, was performed, and in addition to the usual findings, a small extra-dural abscess was found in the zygomatic area. Sulfanilamide therapy was continued postoperatively; course and recovery were uneventful.

The other three cases under routine treatment plus sulfanilamide recovered without the necessity of mastoid operations.

The second patient, a ten-year-old girl, complained of a profusely discharging left ear for three days. Examination revealed little or no mastoid tenderness. Sulfanilamide and bichloride of mercury 1/5000 irrigations were prescribed, but there was little abatement of the mucopurulent discharge. At this time an X-ray examination showed a definite mastoiditis. There being few important symptoms this girl was treated as an out-patient. After about seven weeks of sulfanilamide therapy she was discharged completely cured. A re-growth of adenoid tissue subsequently was removed and the patient now has enjoyed excellent health for several months.

The third patient was a three-year-old boy. He complained of fever, chills, and swelling in the region of the right zygoma and back of the ear, of two days' duration. (There had been a discharge, it was reported, intermittent, and at times somewhat foul, from this ear for two years.) Findings were typical of a zygomatic acute mastoiditis, right, possibly an acute exacerbation of a chronic process. On admission the patient's temperature was 100.5, W.B.C. 13,350, and X-ray showed a definite mastoiditis, right. Sulfanilamide and routine treatment were instituted, the circum-aural swelling and mucopurulent discharge subsided rapidly and the patient was permitted to leave the hospital cured in six days' time. (Several months later a report through relatives indicated that the child had had no further trouble with his ear).

The fourth patient, a forty-five year old woman, was admitted to the hospital complaining of a painful left ear which had spontaneously begun to discharge seropurulent matter two days previously. There had been considerable pain and examination revealed definite mastoid tip tenderness. Her temperature was 100.2, W.B.C. 5,300, rising two days later to 6,800. An X-ray of the left mastoid showed a haziness consistent with acute mastoiditis. Routine plus sulfanilamide treatment was instituted and the patient was discharged from the hospital practically recovered after nine days. The ear was reported completely dry in another week.

While these case reports are too few to be of much statistical importance, yet they do in a small way supplement hundreds of others reported in the literature indicating the dramatic effectiveness of sulfanilamide and its derivatives in the treatment of acute middle ear and mastoid infections.

In conclusion, I wish to stress the importance of certain considerations.

(1) Properly controlled sulfanilamide medication is indicated in acute middle ear infections and mastoiditis.

(2) Supplementary methods of treatment, including surgery, should demand due consideration.

(3) Sulfanilamide therapy is most effective in the streptococcal infections while sulfapyridine is to be preferred in infections of pneumococcal origin.

(4) Prolonged use of these drugs is recommended in acute ear conditions if relapses are to be avoided.

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DYSMENORRHEA-LIKE EPISODES IN A PATIENT WITH CONGENITAL ABSENCE OF THE UTERUS.

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The cause of painful menstruation is usually thought to arise from dysfunction of the uterine musculature. The causes of this dysfunction, as commonly given in the literature, are legion. We have been told, for example, of stenosis of the cervix; of deficient elasticity of the uterine wall; of hyperesthesia from nutritional disturbances; and, of course, of the effect of endocrine imbalance causing abnormal spasmodic contractions of the uterus. In addition, it is occasionally admitted that some patients may have pain of ovarian origin. The following case may be food for thought for those who consider dysmenorrhea and uterine dysfunction as practically synonymous.

M. D., a sixteen-year-old female inmate of an orphanage was first seen in September, 1936. At this time she complained of severe drawing pains in both lower quadrants of the abdomen lasting three to four days and occurring periodically for the preceding four months. Associated with the above complaint she experienced headaches and general malaise. Symptoms at times were so distressing that the patient was confined to bed. There had been no menstrual bleeding. The remainder of her history was entirely irrelevant.

Examination revealed a very cooperative, moderately alert girl, a little short in stature. Her breasts were well developed; axillary and pubic hair distribution was normal. Her genital labia were normal but no hymenal opening was seen or felt. On rectal examination it was found that the intact hymen, or what should have been a hymen, could be pouched out. No cervix or uterus could be palpated but it was thought that the right ovary was felt. A cleft uvula was the only other abnormal physical finding. Tentative diagnoses were (1) imperforate hymen and (2) possible congenital absence of cervix, uterus and vagina.

Four months later the above findings were reestablished and corroborated by consultation, and the discussion resulted in a decision to perforate the patient's hymen and explore her perineum for a vagina and cervix. This was done in June, 1937, under local anesthesia, and no vaginal cavity was found. The extent of exploration was limited only by fear of entrance into the peritoneal cavity.

The patient returned to the orphanage where her usual monthly seizures of lower abdominal pains persisted. Partly because of pressure by the patient and her family, and partly because of the possibility that a uterus might be present and a hematometra might exist, in August, 1937 an exploratory laparotomy was performed.

A normal peritoneal cavity was encountered, in

the pelvic portion of which *no* uterus or tubes were found. Round ligaments, which ran a normal course until they approached each other in the midline, were easily identified. About four inches from their respective internal inguinal rings these ligaments presented a bulbous enlargement the size of a large olive and then merely thinned to eventual invisibility. These two bulbs were removed and were reported, histologically, to be composed of normal appearing smooth muscle resembling that of the uterus but containing no cavity. The ovaries appeared normal except for slight enlargement of the right ovary.

Actuated by the memory of the intimate embryologic relationship between the urinary and genital tracts, exploration was made and an absence of the left kidney and ureter was found. No other intra-abdominal anomalies were encountered. Post-operatively, intravenous urography showed the well outlined right kidney to be hypertrophied, and an absence of dye on the left side.

Operation was followed by an essentially benign course and our patient was completely relieved of her cyclical symptoms until November, 1937, three months after operation. Since this date these symptoms have reappeared every twenty-eight to twenty-nine days. These seizures are just as severe as the ones she had pre-operatively and of the same character. The pain starts in either lower quadrant, more often the right, and spreads over the abdomen and down the thighs.

Here, then, we have a patient with a symptom complex which would spell dysmenorrhea, except for the absence of uterine bleeding. We have rather definitely discarded the fact that she might consciously or unconsciously be trying to "resemble other girls", since she was ignorant of the fact she had any missing genitalia until she was seventeen and had had fifteen months of "dysmenorrhea". Also, her attacks caused her to miss many pleasurable occasions which she ordinarily enjoys tremendously. We firmly believe that these pains are not of psychic origin but admit our inability to prove this point.

Neurologic examination was negative, and rectal examinations before, during, and after an attack have failed to show any edema or engorgement of the rectal mucosa.

Another possibility which suggested itself was that this pain might be due to exaggerated pain of ovulation. Consequently, to determine the relation of this pain to ovulation, we assayed the daily urinary gonadotropin excretion on the assumption that the appearance of this hormone is an index of ovulation. The technic involved the concentration with alcohol of an entire first morning specimen of urine to 9 cc., and its injection twice daily into a twenty-one-day-old female rat, for nine injections. The uterus and ovaries were weighed the sixth day after the first injection.[1, 2]

The urine was run daily for one month. During this time she had two attacks of pain close together, which was unusual, although it had occurred before. The first was of two days' duration beginning nine days after starting the assays. Five days after the first attack ended, a three-day period occurred. The assays were stopped eleven days after the second period ended. Another series was run two months later, starting with the onset of the period, and continuing for fifteen days. The results indicate that the patient did not have appreciable amounts of gonadotropin in her urine at any time, so that we were unable to determine when ovulation occurred. One may wonder whether the absence of the uterus might perchance be responsible for this.

In an attempt to determine if inhibition of ovulation might relieve the pain we next tried to inhibit the gonadotropic activity of the pituitary by the administration of testosterone propionate. We gave three 25 mg. intramuscular injections of testosterone* per week, for three consecutive weeks, starting three days after her last period of pain. Due to a misunderstanding, the drug was discontinued with the ninth injection. Her pain period came eight days later and was of normal intensity and duration. Since then the pain periods have continued unchanged. The patient refused further therapy. This shred of evidence would tend to further refute the idea that this pain is connected with ovulation, since this course of androgenic therapy should have been adequate to inhibit ovulation for one period.

Our final attempt to determine the time of ovulation was by having the patient take her rectal temperature daily, on awakening, on the basis that the rectal temperature is said to drop distinctly at the time of ovulation.[3] Unfortunately, the subject showed a notable lack of enthusiasm for this procedure, and the results were worthless.

*We are indebted to Dr. W. R. Bond, of Schering Corp., for supplying us with Oreton.

SUMMARY

A female with congenital absence of uterus and vagina exhibits severe dysmenorrhea-like symptoms monthly. Attempts to correlate the pain with ovulation, by assaying the gonadotropin excretion, and by testosterone therapy, have failed.

ACKNOWLEDGEMENTS: We are indebted to Drs. W. P. Barnes, Louise Galvin, and Gayle Crutchfield for their consultation.

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THE MECHANICAL FACTORS IN APPENDICEAL PATHOLOGY AS FOUND *IN SITU*.

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My attention was definitely arrested about three years ago, when I operated upon a child who had been referred to me by a competent pediatrician with a tentative diagnosis of chronic appendicitis and a request for an appendectomy. She had never been quite well, had failed to develop normally, had repeated digestive upsets, with abdominal discomfort, nausea, at times emesis. Constipation was usual. During these repeated attacks, she would show an increase in pulse rate, but rarely a significant rise of temperature. Ultimately she would develop tenderness on pressure in cecal region without spasticity. There were no definite blood changes reported.

Upon opening the peritoneum, the clubbed tip of the appendix presented. Immediately below were seen two complete coils, one above the other. Further investigation *in situ* revealed a short mesoappendix and two inverted triangular bundles of peritoneum attached at different levels, the mechanics of the three being such as to create tension and counter-tension with resultant mild obstructive changes. The picture presented was that of a coiled snake ready to strike. Following its removal, the

*Fig. 1. Shows a coil at the point where a constriction prevents the emptying of the appendix.

Fig. 2. Shows an angulation.

*The drawings represent four types of external obstructing factors. These are quite typical. There are many other types of variations and degree. The point that I want to impress is that the extrinsic factors create and are frequently responsible for the intrinsic pathology.

child has been well and since has developed normally.

By the mechanical factors in appendicular pathology, I am referring to (1) the extra-appendicular factors, (2) the intra-appendicular factors observed *in situ*, which are capable of and do produce changes in the size, shape and location of the appendix. These factors produce obstructive pathology, one or several, to the canal, blood or nerve supply, of varying degree, ranging from mild to severe, depending upon the degree of deformity in a given appendix.

The factors may be grouped into (1) congenital, and (2) acquired. They consist of folds, bands, bundles, veils, anomalies of the meso-appendix and adhesions.

It is my feeling after reviewing many cases that the extra-appendicular factors, when considered individually and collectively, are commonly primarily responsible for many of the intra-appendicular lesions, which are the result of incomplete to complete obstructive changes.

With the intra-appendicular factors, we are all quite familiar. They consist of foreign bodies, such as fecoliths, bone, parasites, shot (in game devotees) and the like.

The extra-appendicular factors vary in size, shape, consistency and location. There may be and frequently are found one or more of these factors in an individual case. The shape, size, consistency, number, point of attachment and area of attachment, each plays its particular role in producing mechanical obstructive changes. The appendices thus involved may, and do reveal any one or combination of changes in the shape, size and relation of the appendix, depending on area of pull and counter-pull. The degree of pull and counter-pull determines the degree and type of obstructive deformity in a given appendix.

The area, type and location of attachment has its role in the production of a given type of deformity. The apex of a triangular bundle when attached to the appendix produces a sharper angulation than when the base of the factor is attached. A bundle of peritoneum which divides into a "Y" near the appendicular attachment frequently produces a longitudinal rotation. The peritoneal bundles are usually congenital. The bands may be either congenital or acquired. The bands are usually of a firmer structure and, therefore, produce direct obstructive changes at the point where they cross the appendix. The veils are probably due to a previous mild inflammatory reaction. The veils are thin (until firmly organized) and usually produce less severe types of pathology. When organized they produce increased degrees of pathology. This depends upon the degree of tension directly applied over a given area or point.

All combinations of factors have a part in producing deformities of varied characteristics.

The early diagnosis of these milder cases of mechanical appendicular pathology is rarely clear, and frequently has to await the advancing recurrent attacks of increased severity and more definite symptoms and other clinical findings.

The milder types rarely reveal anything very definite of diagnostic value, but we should keep in mind the most frequent possibility—the appendix. The symptoms in the milder cases are those of abdominal discomfort in the umbilical or epigastric regions, anorexia and recurrent digestive upset. Nausea is

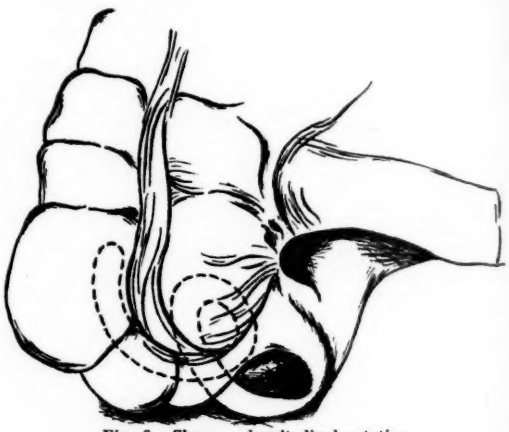

Fig. 3. Shows a longitudinal rotation.

common. Emesis is less common. Constipation is quite usual. There is frequently no rise or only slight rise of temperature. The pulse rate is usually increased during these upsets. This is an important finding. There is rarely an early increase in the total leucocyte count, but there may be a slight increase in the polymorphonuclears after a few hours. The small lymphocytes show an early and marked increase. There is tenderness over the appendix on pressure. The point of maximum tenderness varies with the location of the appendix. The patient frequently can place a finger over the most tender point.

In the retrocecal cases, this is quite important. The palpation should be made between fingers of

both hands, placing one over lower right abdomen and the other over the loin.

The mild symptoms may subside, to be followed by recurrent attacks, or the mild may progress to the more severe types with a more completely oriented syndrome.

It is very important to suspect and recognize the mild cases and treat them by prompt surgery before the advanced changes supersede the mild.

The pathological changes in the appendix, resulting from one or more factors, vary in degree from the very obscure and indefinite to the increasingly advanced severe types.

The pathology producing symptoms in the incomplete deformities are indefinite and vague, but the discomfort increases with each recurring attack, at

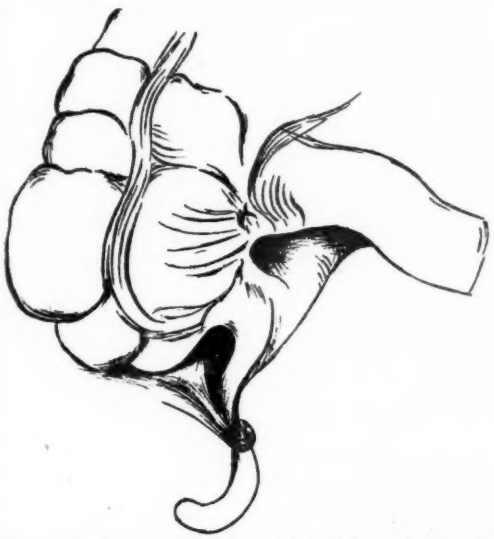

Fig. 4. Shows a retrocecal type with a kink proximal to the cecoappendix.

times suddenly. The diagnostic picture is one of degree. The degree depends upon the stage and degree of obstructive changes. The obstructive changes are in direct relation to the deformity produced by the factors found in a given case. The most common findings are angulation and longitudinal rotation.

The roaming appendix may be found in any location within reach, unattached or attached to any contiguous structure. I have seen two obstructing the bowel in the left abdomen.

It is easy to overlook the mechanical factors when one fails to inspect and palpate the appendix *in situ*. It is very interesting and instructive, with good exposure, to take an extra minute for investigation before lifting the appendix from its bed.

We are all familiar with the pathology found in appendices, which is the result of its contiguity to some adjacent inflamed structure, as in salpingitis.

There is a very low operative mortality in the simple cases; as a matter of fact, there should be none, barring accidents. I am always being reminded of a remark made by one of the older surgeons, now dead—"The time to remove an appendix is when the diagnosis is reasonably made, if not before."

Rarely, now, is there great difficulty in convincing the patient or the family of the importance of prompt surgery. Of course, we will probably have to contend with castor oil and ice bags for a while yet.

SYNOPSIS

	PER CENT
Average age at operation	27.4
Prior to twenty-five years	48 plus
Previous history of attacks	75
No previous history of attacks	25
Average temperature on admission	99.6
Average pulse rate on admission	92
Average white blood count on admission	9,540
Average polymorphonuclear count on admission	74.4
Average lymphocyte count on admission	25.6
Tentative diagnosis:	
Acute appendicitis	40
Recurrent-chronic	48
Sub-acute	4
Routine	8
Pathological report:	
Acute	25
Sub-acute	12
Acute suppurative	7
Chronic	43
Gangrenous	3
Sclerosis	8
Findings at operation:	
Acute	17
Walled off abscess	1
Localized peritonitis	1
Perforation	4
Sclerosed	2
Adherent to cecum	3
Coiled	5
Longitudinal rotation	8
Retrocecal	8
Angulations (one or more)	39
Swollen and obstructed	18
Parasites	2
Concretions	6

These findings, roughly, may include two or more of different findings in a given case.

CONCLUSIONS

1. The appendix when examined *in situ* may, and frequently does, reveal mechanical factors which are responsible for changes in size, shape and location of the appendix.

2. The pathological changes in the appendix resulting from the mechanical factors are obstructive. These obstructive changes are of variable degree, from mild to the destructive processes.

3. The obstructive changes involve the lumen, circulation and nerve supply, one or all.

4. The factors consist of bundles, bands, veils, adhesions, and anomalies of the meso-appendix.

5. The obstructive changes include angulations, coils, longitudinal rotations and misplacements. Any combination of these may exist.

6. The number, the variety, the shape, the area and the location of attachment to the appendix with the resulting pull and counter-pull, any or all, are responsible for the obstructive changes.

7. The degree of pathology found depends upon the tension and counter-tension; the direct pressure; the area of application; the location, and a number of other factors.

8. Many intra-appendicular obstructions are primarily the result of extra-appendicular factors.

9. In the mild cases, when the appendix is removed and examined microscopically, little or nothing of an inflammatory character is revealed.

10. One should not be annoyed because of this, when he has found the mechanical factors *in situ*.

11. The degree of pathology is progressive and recurrent; mild today, later more severe, and finally destructive. The early picture is one of digestive upsets, pain, nausea, vomiting, constipation (the rule), anorexia, tenderness over location of appendix, rise in pulse rate, rarely a temperature elevation or very significant changes in blood count. If carefully checked and repeated it is commonly noted that the lymphocytes are increased.

12. To avoid catastrophies, *suspect the appendix*, and make every effort to eliminate other causes. But remember that appendiceal pathology may exist without the complete text-book syndrome; for the latter is never present *in toto* in the early stages in the mechanical types.

It is far better to "remove the appendix as soon as a reasonable diagnosis is made, if not before." To delay surgery is to invite morbidity and mortality.

215 Medical Arts Building.

THE CHILD VERSUS THE ADULT.*

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I have been asked to bring you the subject of "Teaching the Child to Live with Adults". The subject struck a most responsive chord within me and I am grateful for the opportunity to be with you. Keenly do I feel about it, for such a topic could could not be more diametrically opposed to my innate scientific beliefs. What is there to recommend it? Why should we choose to "teach children to live with adults"? The answer is found in our own condescending, superior, egotistical attitude which we all assume in dealing with the child.

Far better it is if we turn around our subject and our attitude and "teach adults to live with the child". We would be unselfish about the matter, to say the least. Is it not the child about whom we are concerned? Is there any other one thing in the world which so displays our stupidity and our ignorance as does the child? Constantly is he bringing problems and putting questions which we are inadequate to meet in a sensible and logical manner. We can change our attitude toward the child with more profit to ourselves than if the child make that same adjustment. When a little child comes into this world of ours, he is fresh from the hands of God and is innately more sound and perfect than any of us adults. He is full of potentialities and capacities, and the whole span of life stretches before him. Our adult interest should be to encourage him to develop himself in a perfectly normal manner. We should allow him free expression of himself and not try to inflict upon him our own opinions. After all, it is his life, breathed into him by the Diety, and not ours, even though he be our own child. We should try to guide him, to lead him—not to force

*Read by invitation to the Parent-Teacher Association, Robert E. Lee School, Richmond, Va.

him or to shackle him wtih our ideas and our ideals. In every sense of the word, he is an individual and is due the same patient consideration and understanding which we adult individuals reserve for ourselves. The child is natural and seeks to express himself along instinctive developmental lines. We are unnatural, changed and modified by every influence which we have experienced since birth and so it is that we have acquired a shell, a veneer, and, in a sense, do not speak even the same language as does the child. Here lies the difficulty and, until we perceive this truth, there can be no understanding on the part of either one.

The greatest need of every child is to be left alone more, to be allowed to express himself more freely and to profit by his own mistakes. Unfortunately, some of us still believe that we can teach others how to live life. I doubt seriously that anyone can be taught anything in the strictest sense of that word. He must learn for himself. And yet, we adults, in our conceit and self-confidence, are forever seeking to mould the lives of our children. True, it is that "Fools rush in where angels fear to tread". Children are told "to do this" and "not to do that", often without even a semblance of explanation. Our opinions are being constantly forced upon them and they are required to respect them. If the situation were reversed, and the opinions of others were forced on us, we would rise up in righteous indignation and refuse. If our children do this, they get a spanking for their trouble. It is far more important that the child learn to formulate his own opinions which he can both understand and respect. Someone has said that our children and our dogs know us far better than we know ourselves. This is undoubtedly true, for they are alert and surprisingly discerning. In my daily work, patients constantly call forth to me memories from their childhood which would embarrass their parents very considerably if they could but know. The child influences his environment and is in turn influenced by it. Family discords of one kind or another help to shape his future thought processes, and economic troubles, household business discussions, parental worry, marital difficulties, in fact, the whole home atmosphere, finds him responding in like emotional status.

There is usually a motive in our attitude toward the child, of which we are totally unaware. In his growth and development, we are subconsciously reminded of a similar period in our own lives and of our successes and our failures. The latter pain us and our attitude and solicitation of the child is but a projection into his life of the second chance we all crave in an attempt to better our first effort. Truly, we try to live again our own lives in those of our children.

Every human being has the inalienable right to a happy childhood. When we grow old, we have little else to comfort and sustain us but our memories. What is it that destroys or robs one of his happiness? The answer is "Fear". Fear is the most damnable and destructive force in the universe. Fear is mankind's greatest enemy and the secret behind the power of everything symbolic of the devil. It is with us from the cardle to the grave, and holds us in its unhappy grip. Shame, inferiority, anxiety, apprehension, worry, uncertainity, disappointment, anger, humiliation, and discontent are all emotional variations and gradations of that hellish state we call "fear". In my opinion, fear is an unnatural state. It is not a normal emotion. It is instilled into us and thus is acquired. The child is born devoid of fear, so far as science can determine. Certainly we find in the lower animals no evidence of fear in the very young. Unfortunately, early in life we become touched by it and forever thereafter, we are subject to its destructive force. The seeds of most fears are sown in the child's mind during the first six or seven years of its life. Wise is the parent and fortunate is the child who can have the luxury of an atmosphere devoid of fear. In their over-solicitous and over-conscientious attitude, many a parent commits the worse possible approach. A happier childhood results where the child can be left alone, relatively, and allowed to "paddle his own canoe". What is sorely needed in most parents is a more fatalistic or "oriental" attitude about their children. Then, in their anxiety to be helpful, they would be slower and more conservative in interrupting the normal course of child development. Words and tones are often more potent than whippings. They carry great force and consequences in the susceptible person's mind. I have known of many cases where a single word carried such ominous significance as to temporarily wreck the peace of mind of a previously happy person. The child is nothing if not susceptible to all the influences of his environment and the word "don't" has caused

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more unhappiness than any other in the English language. Children have it fed to them for breakfast, dinner and supper, and in between meals for good measure. Did you ever yourself analyze how unattractive that word is? "Don't" is a word of negative implication and is irritating to all thinking people in itself. It is negativistic and destructive in its entirety and contrary to the very principle of life, which is positive and constructive. The "don'ts" inflicted on children daily are qualitatively familiar to us all, but I doubt if any of us realize the number of them *ad infinitum*. Is it any wonder then that little children become confused and uncertain of just what is expected of them?

Thus the child finds himself in conflict with his instincts and emotions on the inside and the ideas and ideals of the adult on the outside. This leads him to hold in or repress his normal emotions and causes him to become timid, tense, uncertain. And so he lays down a reaction pattern which is abnormal in itself and, under stress and strain of circumstances in adult life, these fundamental or foundation methods of reacting come to the forefront, leading to what we term "nervous disorders". Once fear is acquired, it is even more harmful when it is not freely expressed and manifested, for the emotional force involved is more devastating than any of the forces which the external world can bring upon the person. This internal struggle is more malignant to the peace of mind than cancer is to the physical body. The animals lower than man are more natural than he, for they express their fears freely. While it is essential to understand "fear" in general and how it influences the child, we cannot eliminate fear without first knowing its cause. Are we afraid of things with which we are familiar? Or is it the unfamiliar which makes us uncertain and ill at ease. Unquestionably ignorance is the cause of fear. Unquestionably knowledge and truth constitute its cure.

We have a definite duty to the child. We should accord his thoughts and feelings the same measure of respect which we demand for our own. We should honor his convictions and encourage him to develop himself. We should help him to develop his own individuality. The child is both a joy and a responsibility, and the world will be a happier and more normal place when adults have learned to "live with the child".

Mental Hygiene Activities

The Mental Hygiene Society of Virginia will celebrate its fifth anniversary this spring at the Conference of Social Work at Roanoke, as it was from the Mental Hygiene Section of that organization that the Mental Hygiene Society had its origin. Soon afterwards a synopsis of the primary aims of the Society was published. These aims were as follows:

1. Establishment of a Director of State Hospitals with a unified system of control.

2. The establishment of psychopathic wards at both State Medical Schools.

3. An increase in the number of nurses and doctors at the State Hospitals, with the establishment of definite requirements for the positions on the State Hospital Service.

4. The establishment of clinics for the study of Mental Diseases throughout the State.

These objectives were practically identical with the recommendations that the Mental Hygiene Committee of the Medical Society of Virginia (which Committee existed for approximately ten years until it was discontinued in 1935) had placed before that organization annually without any apparent effect. Since the origin of the Mental Hygiene Society, however, practically every objective has been attained or is in the process of attainment.

It is now time to construct new aims and purposes if the Society is to continue to stimulate the people of the State to have continued interest in the prevention and cure of personality disorders. The leaders of the Selective Service System have shown the way. They have turned out to be Mental Hygienists of the first order. They want no repetition of the tragedies of the last war, when draftees totally unfit from a personality standpoint were sent to the training areas, only to break down and to remain wards of the Government for the rest of their lives. Thirty-eight thousand nervous and mental cases are now cared for by the Veterans Bureau and over $900,000,000 has been spent on nervous and mental casualties since 1918. The Selective Service System has challenged the psychiatrists of the Country to prevent the recurrence of this holocaust. The psychiatrists have accepted the challenge, so are now stimulating the local Boards to eliminate those with unfit personality make-up. Slogans are being produced; first, "NO ONE WHO CANNOT GET ALONG AT HOME CAN

GET ALONG IN THE ARMY", and the second, "THIS MUST BE THE BEST ARMY IN THE WORLD".

Immediately it follows that the persons rejected by Selective Service for personality unfitness are in need of mental hygiene, so should be recognized to be followed by all the preventive measures at our command. The rehabilitation of these unfit should give a great impetus to the Mental Hygiene Society of Virginia.

The Mental Hygiene Survey published by the State Hospital Board, through the kindness of the Board, will be sent to all members of the Mental Hygiene Society. This magazine is filled with news. In the January number there is a splendid report on The Colony at Lynchburg, as well as a review by the State Hospital Director.

At present it appears that the Institute of Public Affairs might give one afternoon and night to the discussion of "Relation between Mental Hygiene and National Security," as well as "The Need for the Better Handling of Personality Disorders in the Future."

DAVID C. WILSON, M.D.

Miscellaneous

Three Quarters of a Century for Parke, Davis & Company.

The year 1941 marks the Diamond Anniversary of the founding of Parke, Davis & Company, a firm which had its inception in a small drug store in the City of Detroit, Michigan, and which, during the past seventy-five years, has become the world's largest makers of pharmaceutical and biological products.

From the very beginning, back in 1866, Parke, Davis & Company has engaged in research work with the object of making available to pharmacists and physicians, medicinal preparations of the highest degree of accuracy.

In the early seventies, pharmaceutical progress meant the discovery of new vegetable drugs. Energetic—and extensive—explorations gave to the medical profession such valuable and widely used drugs as Cascara and Coca. Then in 1879, came one of Parke-Davis's greatest contributions to pharmacy and medicine—the introduction of the first chemically standardized extract known to pharmacy. Desiccated Thyroid Gland, the first endocrine product supplied by the Company, was introduced in 1893. One year later, Parke-Davis established the first commercial biological laboratory in the United States. In 1897 came the introduction of the first physiologically assayed and standardized extracts. And throughout these early years, the fundamental Parke-Davis policy—precision in pharmaceutical manufacture—was crystallizing.

Since the turn of the century, progress of the Company has continued apace. An aggressive program of research has been zealously pursued, marked by the introduction of such important medicinal products as Adrenalin, Ventriculin, Theelin, Pitocin, Pitressin, Mapharsen, Neo-Silvol, Antuitrin-S, Meningococcus Antitoxin, Dilantin Sodium, and many others. Diversified research activities cover the major phases of medical treatment—including the endocrine, biological, vitamin, and chemotherapeutic—and new discoveries are carefully evaluated through the Company's extensive facilities for clinical investigation.

The Company's home offices and research and manufacturing laboratories in Detroit occupy six city blocks on the Detroit Riverfront, adjacent to the Detroit-Walkerville ferry, which connects the City of Detroit with the Province of Ontario, Canada.

A beautiful farm of 700 acres, known as Parkedale and located near Rochester, Michigan, about thirty miles from Detroit, is utilized for the production of antitoxins, serums and vaccines, and for the cultivation of medicinal plants.

In addition to its Detroit headquarters, branches and depots are maintained in important cities throughout the country, the list including Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Dallas, Denver, Indianapolis, Kansas City, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, and Seattle.

In the foreign field, to care for the Parke-Davis business which extends to every quarter of the globe, branches are located in London, England; Sydney, N.S.W.; Walkerville, Ontario; Montreal, Quebec; Toronto, Ontario; Winnipeg, Manitoba; Bombay, India; Havana, Cuba; Buenos Aires, Argentina; Rio de Janeiro, Brazil; and Mexico City, Mexico.

Through the use of full-pages in leading national magazines Parke, Davis & Company are carrying on an advertising program that has attracted wide attention. As might be expected, their advertising is unique, ethical, distinctive. They make no direct

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attempt to sell their products to the public by means of this publicity. In a sincere effort to render a valuable service to the medical profession, they are running a striking series of messages based on the "See Your Doctor" theme and physicians throughout the country are constantly experiencing evidences of the results of this broad educational program.

Proposed Additions and Deletions for U. S. Pharmacopoeia XII.

Dr. H. B. Haag, in connection with his editorial on *The Scope of the New Pharmacopoeia,* has prepared the following Tables of proposed additions and deletions for the next Pharmacopoeia, which will be of interest to physicians:

ARTICLES NOT FORMERLY PHARMACOPOEIAL NOW RECOMMENDED FOR THE U.S.P. XII.

TABLE I.

Absorbent Gauze.
Absorbent Gauze, Sterile.
Adhesive Absorbent Compress.
Antipneumococcus Serum (the new monograph to cover all types).
Calaminae Preparata.
Calcium Mandelate.
Dextrose Solution (for injection 50 per cent).
Dextrose (50 per cent) and Sodium Chloride (30 per cent) Solution (for injection).
Elixir Cardamomii Compositum.
Elixir Iso-Alcoholicum.
Elixir Phenobarbitali.
Elixir Terpini Hydratis.
Ethyl Carbamate.
Gas-gangrene Antitoxin (to include types now used).
Gauze Bandage.
Glycocoll (Amino Acetic Acid).
Immune Serum for Scarlet Fever, Human.
Immune Serum for Measles, Human.
Immune Globulin (Placenta Extract) Human.
Lotio Calaminae.
Lotio Calaminae Phenolata (2 per cent Phenol).
Magnesium Trisilicate.
Oleum Hippoglossi (Halibut).
Ouabain.
Picrotoxin.
Picrotoxin Solution (for injection).
Potassii Chloridum.
Quinine Hydrochloride.
Quinine Hydrochloride with Ethyl Carbamate Solution (for injection).
Riboflavin.
Ringer's Solution.
Serums, Dry and Liquid forms authorized for all U.S.P. serums.
Surgical Silk and other Surgical Sutures Sterilized.
Syrupus Ammonii Mandelatis.
Syrupus Glycyrrhizae.
Syrupus Rubi Ideaei.
Tabellae Aminopyrinae.
Tetanus Toxoid.
Tetrachloroethylene.
Theobromine with Sodium Acetate.
Totaquinine.
Transfusion Normal Plasma, Human.
Transfusion Normal Serum, Human.
Trichloroethylene.
Urea.
Vitamin A and D in Oil (Cod Liver Oil Strength).
Zinc Peroxide.

The following additional items, needed as "pharmaceutic necessities," must be added as new admissions—

Compound Spirit of Cardamom.
Cudbear.
Oil of Caraway.
Oil of Cardamom.
Raspberry Juice.
Spirit of Bitter Almond.
Tincture of Cudbear.

ARTICLES OFFICIAL IN THE U.S.P. XI BUT NOT ADMITTED TO THE U.S.P. XII COMMONLY SPOKEN OF AS "DELETIONS"

TABLE II.

Acetum Scillae.
Acidum Aceticum Dilutum.
Acidum Acetyltannicum.
Acidum Sulfuricum Aromaticum.
Aconitum.
Albumini Tannas.
Amonii Benzoas.
Amonii Bromidum.
Ammonii Salicylas.
Arseni Triiodidum.
Asafoetida.
Bismuthi Subgallas.
Calcii Bromidum.
Calcii Creosotas.
Cannabis.
Cantharis.
Capsicum.
Carbo Activatus.
Carbromalum.
Ceratum Cantharidis.
Cinchona.
Colchici Semen.
Copaiba.
Creosoti Carbinas.
Creosutum.
Dichloramina-T.
Emplastrum Cantharidis.
Emulsum Asafoetidae.
Extractum Cannabis.
Extractum Nucis Vomicae.
Ferrum.
Fluidextractum Belladonnae Radicis.
Fluidextractum Cannabis.
Galla.

Guaiacol.
Hydrargyri Iodidum Flavum.
Iodoformum.
Kino.
Liquor Ammonii Acetatus.
Liquor Ferri Chloridi.
Liquor Ferri Tersulfatis.
Magna Ferri Hydroxidi.
Massa Hydrargyri.
Merbaphenum.
Mistura Opii et Glycyrrhizae Composita.
Oleum Santali.
Pancreatinum.
Paraffinum.
Pepsinum.
Pilocarpinae Nitras.
Pilulae Aloes.
Podophyllum.
Potassii Chloras.
Pulvis Ipecacuanhae et Opii.
Pulvis Sennae Compositus.
Pyrogallol.
Quinina.
Resina Podophylli.
Santoninum.
Scilla.
Serpentaria.
Sodii Acetas.
Spiritus Aethylis Nitritis.
Spiritus Chloroformi.
Strychninae Nitras.
Sulfonethylmethanum.
Sulfur Lotum.
Syrupus Ferri Iodidi.
Syrupus Scillae.
Terebenum.
Theobromina cum Sodii Salicylate.
Tinctura Aconiti.
Tinctura Cantharidis.
Tinctura Capsici.
Tinctura Cinchonae Composita.
Tinctura Colchici Seminia.
Tinctura Ferri Chloridi.
Tinctura Kino.
Tinctura Scillae.
Tinctura Valerianae.
Tinctura Veratri Viridis.
Unguentum Gallae.
Valeriana.
Veratrum Viride.

Public Health Statistics

I. C. RIGGIN, M.D.,
State Health Commissioner of Virginia.

The report of the Bureau of Communicable Diseases of the State Department of Health for December, 1940, compared with the same month in 1939 and for the period of January through December, 1940, compared with the same period in 1939 follows:

	Dec. 1940	Dec. 1939	Jan.-Dec. 1940	Jan.-Dec. 1939
Typhoid and Paratyphoid Fever	17	23	276	470
Diarrhea and Dysentery	70	167	1,879	4.306
Measles	416	83	4,040	10,867
Scarlet Fever	198	230	1,784	1,568
Diphtheria	90	181	716	1,474
Poliomyelitis	12	3	243	46
Meningitis	5	1	76	58
Undulant Fever	1	1	23	22
Rocky Mountain Spotted Fever	0	2	43	50
Tularaemia	9	17	48	81

(NOTE: The State Department of Health is circulating a new bulletin on influenza as a part of its current health educational campaign. In the belief that the medical profession might be interested in the contents of this publication it is printed in full below):

Influenza.

WHAT IS INFLUENZA?

Influenza is a very contagious disease which attacks the air passages or organs with which we breathe. It occurs in the form of epidemics. These epidemics vary considerably in extent and intensity; some affect only a small number of people or do not spread very far. Others attack many persons and spread extensively. During some of the severe epidemics complications such as pneumonia may result in many deaths as in the 1918-1919 epidemic.

Many people think of influenza as meaning any bad cold, indeed it is frequently very difficult for the doctor at the outset to distinguish between them. This is especially true when an epidemic is just beginning or when there are only a few cases in the community. However, influenza is a true disease. It is due to a special kind of virus or germ, so small that it cannot be seen even by the use of a miscroscope. Influenza differs from ordinary coughs and colds in several ways. First, it spreads through a community much faster and farther than colds; second, it can occur at any season of the year, whereas coughs and colds are usually only numerous during the cold months; and finally, influenza develops more suddenly, with the general symptoms, such as fever and aching, much more severe than in the case of colds.

How is it Spread?

Influenza is a very catching disease. It spreads from person to person by means of "droplet infection". That is, small drops of moisture or mucus containing the virus are thrown off into the air from the mouth and nose of a person who has these germs by coughing, sneezing, laughing or even loud talking. These drops may be discharged with such force that they reach the nose and mouth of another person standing a short distance away (perhaps about 3 feet) or they may float about for a short time, though it is now known that this and many other diseases are not spread over long distances by means of winds and currents. Influenza also spreads through the handling or using of other persons' handkerchiefs, drinking cups, and other articles soiled by the discharges of one who has the germs in his nose or throat.

How Does It Affect One?

Influenza may begin very much like a cold but the symptoms are usually more severe. In most cases a person who becomes ill with influenza feels sick rather suddenly. He feels weak. His head, back and limbs ache. He may have pain in his eyes or ears or he may be sore all over. Most patients complain of feeling chilly, a few have real chills. A fever in which the temperature rises to 100 to 104 develops. Many patients feel dizzy. There may be symptoms of a cold, such as a raw feeling in the nose and throat with a little running from the nose, though these are generally not marked. Nevertheless, the patient looks and feels very sick. A dry, hacking cough may develop but very little is brought up with the cough.

In three to four days as the temperature begins to fall the patient begins to feel better and recovery begins. Usually it takes several days at least for the patient to return to his usual duties and it may take much longer. Weakness and depression may be quite marked, and distressing symptoms arise if he attempts his full activity too soon. There is great danger too of the development of serious complications if time is not allowed for proper recovery, or if proper care is not taken during the actual illness.

Can it be Prevented?

No health department or other agency can prevent the occurrence of influenza with the facilities now available. Many capable scientists are devoting time and skill toward the discovery of a vaccine or other agent which will protect against this disease but as yet none has been found. This does not mean that we cannot do anything about the disease. There are many things that can be done to delay the spread of an epidemic and to increase greatly the chance of an individual's recovering from this illness without serious complications. The success of these measures, however, depends absolutely upon individual efforts involving his own behavior and habits, and the cooperation of everyone in the protection of the whole community.

There are three main goals which every person should keep in mind and try diligently to attain if he is to contribute his share toward reducing the danger of influenza during epidemics of this disease:

1. To do everything practical to prevent getting the germs into his nose and throat.
2. To do everything within his power to keep himself in the best possible physical condition.
3. To take the same precautions against transmitting germs to others as he would have them observe toward him.

There are several simple rules by which these goals can be reached; so simple that they are too often ignored. Nevertheless, they are most important if we are to accomplish results in our efforts to combat influenza.

To Prevent Getting the Germs:

1. *Keep away from persons who are coughing and sneezing.* If possible stand at least two and one-half feet from anyone you are talking to.
2. *Stay out of the room where a person is sick with any respiratory disease,* unless you are needed to look after the patient.
3. *Do not put your fingers, articles or anything else into your mouth that does not belong there.*
4. *Avoid the use of common utensils and articles.* Do not drink out of a cup others have used and do not use a towel or handkerchief after someone else.
5. Insofar as possible *keep out of crowds,* especially crowds indoors.

To Keep the Body Strong:

1. *Eat a wholesome diet at regular hours.* Take plenty of simple nourishing food; avoid excessive eating and excessive use of alcoholic drinks.
2. *Get plenty of sleep*—at least eight hours of sleep for an adult and more for children according to age.
3. *Avoid fatigue and cold.* If you become overly

tired or get cold you lower bodily resistance. Change your clothing with the weather and not the season.

4. *Work and sleep in rooms filled with fresh air.* Proper ventilation means an adequate supply of fresh air but drafts should be avoided.

5. *Take a reasonable amount of exercise in the open air as often as possible.*

TO KEEP FROM SPREADING GERMS TO OTHERS:

1. *Cover your mouth and nose with a handkerchief when you sneeze or cough.*

2. *Do not spit on the floor or street.* Paper tissues or cloths which can be disposed of should be used.

3. *Wash your hands frequently.* If you soil your hands by sneezing, coughing, or blowing your nose and then shake hands with someone else, you pass your saliva and discharges on to him.

4. *Refrain from kissing children or anyone on the mouth* even though you feel pefectly well.

5. *If you begin to feel sick, go to bed at once, away from the rest of the family and stay there until the doctor says it's safe for you to be up.* This will accomplish two very desirable purposes; a source of spreading the disease is isolated from others and the best chance of the patient recovering without serious complications is assured.

From what has been said it is plain that an individual can do more in protecting himself and others against influenza than the health department can do for him. The question for each one to ask himself is how best, without being foolish, can I reduce the chances of getting germs from other people into my own nose and mouth. To follow the simple hygienic practices and rules just indicated is the sensible answer to that question. It is not enough to observe just one rule, as a matter of fact even if all of them are honestly carried out there will still be some danger but this danger will be far, far less than if we did nothing.

In case you are unfortunate enough to catch influenza, go to bed at once, send for a physician and follow his instructions. If medical service is not available, stay in bed carefully covered for three or four days or until all symptoms have disappeared. Medicine or drugs of any kind, unless prescribed by a doctor, should never be taken. They may actually be dangerous. The patient should be very careful not to get up too soon and the return to his work should be gradual. He should avoid getting over-tired, especially at first. These precautions are wise ones to follow for bad colds as well as influenza, particularly if the patient has a fever.

Woman's Auxiliary to the Medical Society of Virginia

President—MRS. GRIFFIN HOLLAND, Eastville.
President-Elect—MRS. E. LATANE FLANAGAN, Richmond.
Recording Secretary—MRS. HAROLD W. POTTER, Hilton Village.
Corresponding Secretary—MRS. J. WALKER JACKSON, Machipongo.
Parliamentarian—MRS. JAMES B. STONE, Richmond.
Treasurer—MRS. REUBEN F. SIMMS, Richmond.
Chairman, Press and Publicity—MRS. HENRY M. SNEAD, Petersburg.

Alexandria Auxiliary.

The officers for 1941 are: President, Mrs. C. E. Arnette; president-elect, Mrs. H. A. Hornthal; vice-president, Mrs. W. E. Beattie; secretary, Mrs. George Lemeshewsky; and treasurer, Mrs. C. V. Amole.

The Alexandria Auxiliary assists in the maintenance of a bed for a physician or members of a physician's family at the Blue Ridge Sanatorium. A contribution of $36.50 for this purpose was made during this past October.

The Auxiliary redecorated and helped furnish a doctor's room at the Alexandria Hospital. There is a committee in charge of this room and the Auxiliary is responsible for the upkeep of same.

Members donate their time and assistance to the annual drives of the Red Cross, the Cancer Society, the Tuberculosis Association and the Community Chest, as well as donating time and materials to the Alexandria Community Clinic. During this year they have made a contribution of $10.00 to this clinic. At the request of the hospital superintendent, some of the members have offered their assistance on Sunday at the Hospital.

As was done last year, the Auxiliary recently provided *Hygeia* subscriptions to the local public schools, both white and colored, and to the Public Library.

Plans are being made for a benefit bridge party at Gadsby's Tavern the latter part of January, the pro-

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ceeds to be used to further the activities of the Auxiliary.

MILDRED LEMESHEWSKY,
(MRS. GEORGE LEMESHEWSKY),
Secretary.

Williamsburg-James City Auxiliary.

The new officers for 1941 are: President, Mrs. C. E. Holderby; vice-president, Mrs. E. T. Terrell; recording secretary, Mrs. T. B. Henderson; treasurer, Mrs. B. I. Bell: *Hygeia,* Mrs. F. R. Person; and publicity chairman, Mrs. Henderson.

The Auxiliary met January 7 at the home of Mrs. Holderby, with seven members and two visitors present. We had an exhibit of fancy work made by the patients at the Eastern State Hospital and Dr. E. T. Terrell gave a very interesting talk on Psychiatry.

We had a short talk and discussion of Jane Todd Crawford and each member was given a copy of a short history of her life.

We made contributions to the Jane Todd Crawford Memorial Fund and the Leigh-Hodges-Wright Memorial Bed.

MARION HOLDERBY,
(MRS. C. E. HOLDERBY),
President.

Truth About Medicine

In addition to the articles previously enumerated, the following have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association:

The Upjohn Company.

Tablets Ascorbic Acid, 15 mg.
Tablets Ascorbic Acid, 25 mg.
Tablets Ascorbic Acid, 50 mg.
Tablets Ascorbic Acid, 100 mg.
Tablets Nicotinic Acid, 20 mg.
Tablets Nicotinic Acid, 50 mg.
Tablets Nicotinic Acid, 100 mg.

New and Nonofficial Remedies

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Nonofficial Remedies:

Tablets Ascorbic Acid-Squibb, 100 mg.—Each tablet is equivalent to 2,000 International units of vitamin C. E. R. Squibb & Sons, New York, N. Y.

Propaganda for Reform

Poison Ivy Dermatitis.—An alkaline vanishing cream containing a nonirritant, nonstaining oxidizing agent such as sodium perborate or potassium periodate is now recommended as an effective preventive against poison ivy dermatitis By incorporating either of these drugs in an ointment and applying it to the skin of the arms and the face before exposure, even those who are previously ascertained to be highly susceptible may be effectively protected. Preliminary tests on a limited number of volunteers with a 10 per cent sodium perborate ointment, to which a poison ivy extract of well-known manufacture representing a concentration fifteen times greater than that of the toxin in the fresh leaf was applied, failed to elicit reactions. After satisfactory performance in the laboratory, the prophylactic cream was tested by actual contact and handling of poison ivy foliage. An hour later the cream was washed off with soap and water; reactions did not occur. The United States Public Health Service, which developed this technic, recommends that vanishing creams containing oxidizing agents such as those referred to be prepared for use at least every two weeks to avoid deterioration. They should be rubbed well into the skin of the arms and face before each exposure. Soap and water used to remove the deposit of the powdered oxidant on the skin will emulsify it and wash away whatever toxins are lodged in the pores or on the skin. (*J. A. M. A.*, September 7, 1940, p. 862.)

Five-Day Treatment of Early Syphilis.—In *The Journal,* September 7, 1940, p. 857, appears a report by the Council on Pharmacy and Chemistry of the American Medical Association relative to the so-called five-day treatment for early syphilis. Obviously there are considerable advantages in any method of treatment of syphilis which can be completed in a brief period of time, so that the results, if even approximately comparable to those obtainable with systems of treatment requiring months or years, are likely to bespeak for such a method the most favorable consideration. However, there seems to be a chance equivalent to about one in a hundred that patients treated with this technic with either neoarsphenamine or mapharsen may develop in a more or less severe form of the most serious of all arsenical reactions—hemorrhagic encephalitis. Moreover, in patients treated by this technic, peripheral neuritis was encountered in 35 per cent of patients given neoarsphenamine and in 1.7 per cent of those given mapharsen by the intravenous drip method. Fevers and toxicodermas also occurred. Obviously, many more studies will need to be made both of patients under controlled conditions in hospitals and of animals in the laboratory to establish definite criteria for the use of this new technic. (*J. A. M. A.*, September 7, 1940, p. 863.)

Bromides in Medicine.—Recently bromide intoxication has become so prevalent that there is no longer any question that the various bromide preparations possess distinctive effects, especially on the central nervous system. A frequent cause of intoxication is continued self-medication by patients using prescriptions issued by physicians to alleviate the chronic suffering of the alcoholic addict or psychoneurotic individual. This should constitute an

ample warning against any desire for casually prescribing a bromide preparation for headaches, insomnia, restlessness or so-called nervousness, without cautioning patients about "follow-up" visits.

Bromide intoxication does vary with the individual and indiscriminate use of bromides, such as in proprietary sedatives, has led to many cases of chronic bromide intoxication. The Council reports that bromide therapy should not be attempted without careful control of the dosage both of bromide and of salt, so that the blood bromide concentration is not allowed to rise above the 125 to 150 mg. per hundred cubic centimeter level, which is the maximum safe therapeutic concentration. Care should be taken that the patient is not allowed to continue bromide medication without supervision. (*J. A. M. A.*, September 14, 1940, pp. 933 and 937.)

Book Announcements

New Books.

The following are recent acquisitions to the Library of the Medical College of Virginia and are available to our readers, the only cost being return postage:

Anderson, W. N.—Physical diagnosis.
Arey, L. B.—Developmental anatomy.
Ballenger, H. C.—Manual of otology, rhinology and laryngology.
Barker, L. F.—Psychotherapy.
Berman, J. K.—Synopsis of principles of surgery.
Blalock, A.—Principles of surgical care, shock and other problems.
Bodansky & Bodansky—Biochemistry of disease.
Bullowa, J. G. M.—The specific therapy of the pneumonias.
Clark, G. L.—Applied X-rays.
Clayton, E. G.—A compendium of food-microscopy.
Comroe, B. I.—Arthritis and allied conditions.
Craig & Faust—Clinical parasitology.
Dennie & Pakula—Congenital syphilis.
Eagle, H.—Laboratory diagnosis of syphilis.
Funk, W.—If you drink.
Goldstein, K.—Human nature in the light of psychopathology.
Gordon, E. S.—Vitamin therapy in general practice.
Hasenjaeger, E.—Asepsis in communicable disease nursing.
Hawes, J. B.—Diagnosis and treatment of tuberculosis.
Herms & Gray—Mosquito control.
Holt & McIntosh—Diseases of infancy and childhood. 11th ed.
Hurst, A.—Medical diseases of war.
Jacobs, P. P.—The control of tuberculosis in the U. S.
Kremers & Urdang—History of pharmacy.
Levinson, C. A.—Food, teeth and larceny.
Lord, F. T. et al.—Chemotherapy and serum therapy of pneumonia.
Macnaughton-Jones, H.—Hearing and equilibrium.
McCurdy & Larson—The physiology of exercise.
Mennell, J. B.—Physical treatment by movement, manipulation and massage.
Military medical manual.
Miller, E.—The neuroses in war.
Munchereryan, H. M.—Modern physics of roentgenology.
Muncie, W.—Psychobiology and psychiatry.
Rogers & Muir—Leprosy.
Rony, H. R.—Obesity and leanness.
Sobotka, H.—The chemistry of sterids.
Stimson, P. M.—A manual of the common contagious diseases.
Stix, R. K.—Controlled fertility.
Stroud, W. D. ed.—Diagnosis and treatment of cardiovascular disease.
Szent-Györgyi, A. V.—Oxidation, fermentation, vitamins, health and disease.
Taber, C. W.—Cyclopedic medical dictionary including a digest of medical subjects.
Visscher, M. B.—Chemistry and medicine.
Visscher, M. B.—Experimental physiology.
Windle, W. F.—Physiology of the fetus.
Yearbook of physical therapy. 1940.
Young, H.—A surgeon's autobiography.

Applied Pharmacology. By HUGH ALISTER McGUIGAN, Ph.D., M.D., F.A.C.P., Professor of Pharmacology and Therapeutics, University of Illinois, College of Medicine. St. Louis. The C. V. Mosby Company. 1940. Octavo of xiv-914 pages. Illustrated. Cloth. Price, $9.00.

This is not merely a new edition of an old book, but an entirely new book in all but subject. The author has attempted to depart from the usual encyclopedic form of most texts in this field, and to interpret pharmacological phenomena in terms of the underlying chemical and physiological changes. While such a treatment of the subject may tend to confuse and overawe the student who is not familiar with the fundamentals of chemistry, it appears inevitable that chemistry should play an increasingly important role in the medical sciences.

It is hardly possible for an author to write a text in any scientific field which will appear perfect in all its details to others in the same field; consequently, the reviewer notes several instances in which this text falls below its general level of high quality. In the fairly complete discussion of traumatic shock apparently no mention is made of the important investigations of Blalock et al. Also, he fails to note that the results of Haggard and Greenberg on the rate of oxidation of alcohol in the body are not universally accepted. The most serious criticism which the reviewer finds concerns the chapters on both general and local anesthetics. These subjects are suffi-

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ciently important to warrant a discussion in more detail. Further, in connection with local anesthetics, not all the data presented are in agreement, particularly with respect to cocaine and procaine. While most of the book is quite up to date the chapter on tobacco and nicotine does not take into account much of the important work of the past six or eight years.

In spite of the few criticisms given above, McGuigan's Applied Pharmacology deserves an important place in the teaching of this subject.

J. H. WEATHERBY.

The March of Medicine. Edited by the Committee on Lectures to the Laity of the New York Academy of Medicine. New York. Columbia University Press. 1940. 168 pages. Cloth. Price, $2.00.

This is a collection of six popular lectures, sponsored by the New York Academy of Medicine in 1938 and 1939, which gives in an entertaining style a general historical survey of the development of medicine. Outstanding authors have contributed to this work; and the lectures have been so chosen that they form together a very homogeneous collection. The physician should find this book very amusing as light reading; and the layman should find it very instructive. The present book is number IV edited by this group.

C. R. SPEALMAN, M.D.

Handbook of Orthopaedic Surgery. By ALFRED RIVES SHANDS, JR., B.A., M.D., Medical Director of the Nemours Foundation, Wilmington, Delaware; Associate Professor of Surgery in Charge of Orthopaedic Surgery, Duke University School of Medicine, Durham, North Carolina (On Leave of Absence). In Collaboration with RICHARD BEVERLY RANEY, B.A., M.D., Associate in Orthopaedic Surgery, Duke University School of Medicine. Illustrated by Jack Bonacker Wilson. St. Louis. The C. V. Mosby Company. 1940. Octavo of 567 pages. Cloth. Price, $4.25.

This recently acquired book is a second edition of one which has previously been in our library. It is a small book on this subject and is evidently designed for students' use. For this purpose the authors are to be commended for the presentation. No effort is made to give a detailed study of small topics but an excellent bibliography is included. In numerous places the authors' ability to describe clearly and concisely is displayed and their own opinions on controversial points are skillfully but briefly introduced. Some added care in the use of exact anatomical terminology would improve future editions.

The book is highly recommended to students for reading from cover to cover.

THOMAS BEATH, M.D.

Bacillary and Rickettsial Infections. Acute and Chronic. Black Death to White Plague. By WILLIAM H. HOLMES, Professor of Medicine, Northwestern University Medical School; Chairman, Department of Medicine, Passavant Memorial Hospital, Chicago, New York. The Macmillan Company. 1940. 676 pages. Cloth. Price, $6.00.

If more texts for instruction in the medical sciences were written in this form, reading assignments would be a more pleasant task for the student.

The approach to the subject from the historical viewpoint is entirely different from the usual conception of what a textbook should include. The reading of this volume should stimulate other teachers to try this method of presentation and give the student an opportunity to develop a cultural background, while he is assimilating essential facts.

J. DOUGLAS REID.

Methods of Treatment. By LOGAN CLENDENING, M.D., Clinical Professor of Medicine, Medical Department of the University of Kansas; Attending Physician, University of Kansas Hospitals. And EDWARD H. HASHINGER, A.B., M.D., Clinical Professor of Medicine, Medical Department of the University of Kansas; Attending Physician, University of Kansas Hospitals; Attending Physician, St. Luke's Hospital, Kansas City. With Chapters on Special Subjects by J. B. Cowherd, M.D., Leland F. Glaser, M.D., Thomas B. Hall, M.D., John S. Knight, M.D., H. P. Kuhn, M.D., Paul H. Lorhan, M.D., F. C. Neff, M.D., Don Carlos Peete, M.D., Carl O. Rickter, M.G., E. H. Skinner, M.D., O. R. Withers, M.D., and Lawrence E. Wood, M.D. Seventh Edition. St. Louis. The C. V. Mosby Company. 1941. Octavo of 997 pages. Illustrated. Cloth. Price, $10.00.

There is still need for the perfect textbook on therapy—one voluminous enough to answer every question that the busy practitioner from time to time must have answered, one with a complete and accurate index to promote rapid reference, one with a wealth of photographic and diagrammatic illustrations, one with a painstaking outline of all procedures step by step. Such a textbook is yet to be written.

Clendening and Hashinger in the *Methods of Treatment* have produced a good book though it is lacking in some of the essentials noted above. For example: one searches in vain in the index for directions for giving a vaginal douche and for irrigating the throat, and unless one had already had experience, one would have difficulty in giving a simple enema from the given description. Such charges are not too serious in the case of a book which demonstrates that it has already won its spurs in useful service by going into its seventh edition.

W. B. B.

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WYNDHAM B. BLANTON, M. D.
Editor

AGNES V. EDWARDS
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Editorial

The Medical Practice Act.*

The necessity for certain laws governing the care of the sick has been recognized in the Commonwealth of Virginia for more than two centuries, and statutes relating to various aspects of medical practice have been enacted during that period. It was not, however, until 1884 that standards were prescribed for practitioners themselves. In that year a bill was passed by the Legislature requiring that those seeking licenses to practice medicine must first be examined by a duly appointed board and their qualifications established before such licenses could be issued. Thus the Medical Practice Act came into being. As knowledge of disease has increased and methods of management have changed the Act has from time to time been amended so that gradually the requirements for medical licenses in Virginia have been strengthened with the objective always in view of affording a greater measure of protection to the people against the ministrations of substandard healers. In its present form Virginia's Medical Practice Act is considered to be one of the best in the nation.

In this developmental process, each forward step has been initiated by physicians and consummated with the support of intelligent laymen, convinced that by such measures the interests of their fellow citizens would best be served. Physicians have proposed, when it seemed necessary, that standards be elevated and in doing so have been prompted by a sincere interest in the welfare of the people rather than in the hope that they themselves would secure any special advantage. In no instance have the people, because of any realization of inadequate medical care, inaugurated any of these measures. On the contrary, the medical profession itself, as medical education advanced, has seen to it that only the best qualified practitioners could obtain the right to practice in Virginia.

But what has been accomplished has not come about without effort. Numerous unsuccessful attempts were made prior to 1884 to secure legislation to establish the quality of practitioners themselves, both by individual doctors and later through their organization, the Medical Society of Virginia. In these and later efforts opposition has always been forthcoming, not only from various cults of healers but also from weak proprietary medical schools, who were unwilling to submit their graduates to the test of an examining board. Such schools no longer exist and, if one occasionally appears, it is branded as inferior by a proper grading authority

*The Committee on Cost of Medical Care was nonpartisan, comprised of less than one-fourth doctors and financed by philanthropic foundations.

and its graduates are not admitted to examination in this State. It is seen then that the Act serves as a stimulus to medical schools everywhere to keep up the level of their teaching facilities and equipment.

Various cults, purporting to heal the sick by devious methods, have always existed. All have fought the Medical Practice Act on specious grounds but in truth for the reason that it requires, as a prerequisite to practice, knowledge of the human body and its diseases that they do not possess. A few have realized their error and are now training their students in the fundamental branches so that they are equipped to take the State Board examinations and are recognized as qualified to treat the sick. Other cults attempt from time to weaken the Medical Practice Act and gain admission for themselves. Bills are introduced into the Legislature under deceptive titles and always with the plea of persecution by the medical profession. Nothing is further from the truth. The Medical Practice Act is aimed at no particular sect nor does it advocate or prohibit any form of treatment. Its provisions operate just as forcibly toward eliminating unfit doctors of medicine and suppressing weak medical schools as in restraining the activities of cultists who are unable or unwilling to meet its requirements.

Though only one of numerous healing cults, the chiropractors have of late been the most active in seeking recognition. Of their schools the report of the* Committee on the Cost of Medical Care, after a thorough survey, has this to say: "Without exception, all the chiropractic schools are business institutions run for the profit of their owners. Most of them fairly reek of commercialism. * * * Not one of these institutions really requires its entering students to have had even a high school education. There are probably fewer than a half dozen really qualified teachers in the twenty-one institutions. Not one conducts a clinic where the really serious ailments and diseases can be studied. Not one has laboratory facilities which by any reasonable standards could be considered adequate. Not one offers students the opportunity of practicing or even observing in a reputable hospital. From any sound point of view the education given must be regarded as hopelessly defective and inadequate—and extremely expensive at the price." In the face of this, the only survey of their schools made by an outside agency in recent years, they come before our Legislature with a highly paid lobbyist and claim that their students are thoroughly trained in the fundamental branches and are qualified to treat the sick.

Manipulations of the spine, massage and kindred forms of therapy are usually harmless, though in some instances they may not be, and when judiciously employed they are often of real value. The objection to licensing healers, who rely exclusively on this type of treatment for all patients, is that they apply it where it is not needed and fail to recognize serious illnesses which oftentimes can be cured by proper management. In a recent decision by the Supreme Court of a State in which chiropractors are licensed, the judgment of a lower court, awarding damages against a chiropractor, was upheld. The case was one of meningitis in a child, proven by autopsy. The chiropractor had made no laboratory or other studies suitable to establish the true condition but on the basis of his "spinal analysis", which he said showed a "subluxation", he had continued to give adjustments to the end in complete ignorance of the condition with which he was dealing. He was apparently licensed to practice but was convicted of carelessness and negligence. This is but one of many illustrations that might be given of the results of such practice.

Not only do the people of the State suffer at the hands of this type of healer, but the health departments, charged with the control of communicable diseases, would be seriously handicapped in their work, were they forced to depend for reports upon those who do not believe in germs and who hold that gonorrhoea results from a misplaced vertebra. Mistakes of judgment are inevitable even by the best trained physicians, but mistakes due to ignorance are in large measure preventable. It is therefore earnestly submitted that sound training in the fundamental sciences should be demanded of all practitioners regardless of the type of treatment they emphasize.

The physicians of this Commonwealth through their organization, the Medical Society of Virginia, are committed to the preservation of the Medical Practice Act and to strengthening it as occasion demands. They are also committed to the task

*Prepared by a Subcommittee of the Committee on Legislation of the Medical Society of Virginia.

of seeing that the Act is enforced without fear or favor. To this end the support of the thinking people of this Comomnwealth, expressed through their Representatives, is earnestly invoked and from past experience it is firmly believed that this support will not be lacking.

J.M.H.

Scope of the New Pharmacopoeia.*

Although scarcely six months have elapsed since the Pharmacopoeial Convention met in Washington much work has already been done in completing the groundwork for the Twelfth Revision of the United States Pharmacopoeia.

Of particular interest to the medical profession is the question of what drugs will be included in the next Pharmacopoeia. This question is largely in the hands of the Sub-Committee on Scope, which has as its Chairman, Dr. Walter A. Bastedo. In response to a request from the General Chairman of the U. S. P. Committee of Revision, the President of the Pharmacopoeial Convention, Dr. C. W. Edmunds, and Dr. Bastedo have outlined the policy under which medicinal substances will be admitted to the Pharmacopoeia.

"The Sub-Committee on Scope, which decides Admissions and Deletions for a new Pharmacopoeia, is primarily responsible for the value and usefulness of the book to the medical profession. The fundamental medical and pharmaceutical objectives of the Pharmacopoeia from the time it was established have been to include a selected list of the best known and most thoroughly tested medicines of each revision period and also suitable usage or dosage forms or preparations of these important basic medicines. It has always been the aim of those responsible for the Pharmacopoeia that it should be so comprehensive as to meet every need of medical practice, in so far as there are efficient medicinal products and medical aids known and available.

"This principle of Pharmacopoeial admissions has been maintained and practiced since 1820 and was emphatically reaffirmed by the Sub-Committee on Scope during the recent meeting of the Committee of Revision. When it is determined that a medicinal substance or preparation fails to meet the standard of therapeutic excellence or service required by the Revision Committee or when a patent situation intervenes, such a substance, or preparation, is denied admission to the Pharmacopoeia. This policy of the Pharmacopoeia of the United States is the basic policy for all Pharmacopoeias of the world. Under it is included any substance or preparation used in medicine which in the opinion of its experts is worthy of Pharmacopoeial recognition. Under this accepted policy, the Pharmacopoeia has been able to develop and maintain a unique voluntary service to medicine, pharmacy, and the public, a contribution recognized and accepted by the medical and associated professions, and the manufacturing drug industry, and adopted by State and Federal legislation."

The Sub-Committee on Scope has already prepared a tentative list of articles which have not formerly been in the Pharmacopoeia but which are now suggested for inclusion (Table I),† and has also prepared a second list which contains articles which are now in the Pharmacopoeia but which are recommended for deletion from the Twelfth Revision (Table II).†

The Pharmacopoeia is a physician's book, the careful revision of which has played a large part in elevating American medicine to its present relatively high state of rational therapeutics. It is the sincere wish of all of those responsible for the issuing of this book that it should meet the desires of the medical profession. In line with this ideal it is urged that all who have any suggestions which they believe might increase the value of the Pharmacopoeia to the medical or pharmaceutical professions, or to the public, send such comments to the General Chairman of the Committee of Revision, Dr. E. Fullerton Cook, 43rd Street and Woodlawn Avenue, Philadelphia, Pennsylvania.

H.B.H.

A New Virus Vaccine Against Influenza.

A few days ago enough of Horsfall's and Lennett's influenza vaccine to inoculate 6,300 persons was received in one of the large cities of Virginia. Under the aegis of the State and local boards of health, this vaccine, which has already been employed in the California epidemic, is being given clinical trial among students and industrial employees. The

*By H. B. Haag, M.D., Professor of Pharmacology, Medical College of Virginia.

†Tables appear in Miscellaneous Department on pages 114-115, in this issue.

results, of course, cannot be tabulated for months to come. The vaccine is given in a single injection. It consists of a suspension of material recovered from chick embryos infected with a combination of human influenza and dog distemper. For some reason when these two viruses are combined a vaccine is developed which is protective against all strains of influenza, at least in ferrets.

Climbing with Science Through 1940.

Another year has ended and attempts are being made to balance the scientific ledger to see just what gains have been made in the various fields of concentration.

Uranium 235 still holds the spotlight for potential power. Its possible uses stagger the imagination. Mesotron is a new particle playing a mysterious part in the forces that hold the atom together. More information on it has come this year. New elements have been discovered, elements 85, 87, 93 and 94. New knowledge concerning the isotopes of sulphur give promise of a better understanding of the part it plays in metabolism.

During the year the Rockefeller Foundation granted more than one million dollars to the construction of the world's largest cyclotron designed to produce energies of more than one hundred million volts. A record high pressure of three million pounds per square inch was obtained by workers at the Carnegie Institute in Washington.

Astronomers discovered four new comets, and astro-physicists calculated that Ras Algethi, not Antares, is the largest star known to man.

Petroleum products, oil, coke and coal, were made from grass, seaweed, cornstalks and cotton. Starch, hitherto believed to be exclusively the result of a biologic process in plants, was synthesized from glucose. New work was done with colchicine, a chemical mysteriously capable of influencing the size of fruits and flowers. A new zoological apparition, the kouprey, a wild ox, was discovered in Indo-China.

In the field of medicine, work on pituitary hormones has advanced, while thialin, and pantothentic acid have been synthesized. A new vitamin has been discovered in milk capable of preventing stomach ulcers in guinea pigs. Riboflavin has been related to the keratitis of infancy and vitamin E has been shown to influence muscle weakness. As an outgrowth of the war, blood plasma in liquid form, capable of being preserved from two to three years at ice box temperature, and not requiring typing, has been shown to be useful as transfusing fluid, and the possibility of the use of dried plasma has been definitely established.

Work on the virus diseases has gone forward apace. The new Rockefeller vaccine against influenza is still in the experimental stage, however, and the baffling fact remains that there are hundreds of different types of the virus, each capable of producing the disease. It is possible that we may be nearer a poliomyelitis vaccine in the development of a brain suspension of mice infected with virus of monkey origin which had previously been passed through rats. Experiments with vaccinations against measles also offer promise.

The work in cancer leaves the etiologic riddle still unsolved, although such experiments as the production of sarcomas in mice by extracts of livers of persons who died of cancer show that activity in this field of research is still intense.

Other achievements of the year remain to be noted such as bone marrow transfusion in leukemia and aplastic anemia, the treatment of wounds with plaster of Paris dressings and the apparent demonstration that phytin and inositol are capable of restoring hair to bald rats and that this substance may be recovered from the liver.

Strange Disease.

Warren Vaughan is a tireless apostle of allergy. During recent years he has written two books addressed to his patients. Last year he produced a textbook for physicians. His latest book, *Strange Malady*, under the imprimatur of the A. A. A. S., is addressed to the sixty million potential sufferers from allergy in the United States. There is every reason to believe that the popular imagination which has been stirred by the terms "Black Death" and "White Plague" will be responsive to this cognomen. It is a translation of the Greek word "atopy" suggested to Dr. Arthur F. Coca by a Columbia professor in response to his request for a name for the strange disease of allergy.

Vaughan's book is skilfully executed. It is full of interesting material and is certain to receive acclaim. Appraised historically, it must take its place as a good example of the popularization of medicine. In 1747 John Wesley wrote a book on *Physick* for his parishioners. The Nineteenth Century was over-

run with "Medical Companions" written by doctors for public consumption. Only recently the editor of *The Journal of the American Medical Association* has produced volumes on medicine designed to enlighten lay minds. Scientific fact is at first the property of the few, then of the many. In just such ways as these does learning leaven the lump of ignorance.

Looked at another way—in mildly humorous fashion—such books might be considered a good example of how doctors make trouble for themselves. All of us know the delight of treating the patient who knows nothing of his disease, nothing of the significance of his symptoms, who casts himself upon our mercy, confidently expecting to be made well, and helping to make himself well by an unquestioning obedience to our directions and an unwavering faith in our ability. And all of us know the torture of treating the patient who knows everything about his disease, everything about the significance of his symptoms, who doesn't trust us around the corner, doesn't expect to be made well, and hinders his recovery by his refusal to follow instructions, his self-medication and preconceived notions.

"And, Doctor," said the patient whose affliction was being demonstrated recently to a class of students in allergy in one of our medical colleges, "don't forget to tell the gentlemen that the disease is hereditary. My father and my grandfather had it before me. And don't forget to explain the emotional factor. I'm much worse when I am nervously upset."

All of us know, too, the difficulty of helping a patient who is tormented with fear of all the dreadful consequences that he has read of in magazine or newspaper. The danger of Americans becoming illness-minded is not unreal. Vaughan shows himself aware of this tendency by quoting good old Robert Burton's warning that a man "by applying that which he reads to himself, aggravating, appropriating things generally spoken, to his own person (as melancholy men for the most part do)," may "trouble or hurt himself and get, in conclusion, more harm than good."

And yet the pathway of ease can never be for the physician. Only the quack doctor stoops to succeed by keeping his clientele in ignorance. Education is a part of modern medicine's ministry of healing. Vaughan, like all good doctors, is a teacher as well as a physician.

Proceedings of Societies

The Northampton County Medical Society

Met at Eastville, January 13th, for its annual business meeting, at which time Dr. Thomas Francis McGough, Director of the Northampton County Health Unit, was elected to Honorary Membership in the Society.

The Society, in conjunction with the local Health Unit plans to establish a "Well Baby" clinic in the county, hoping thereby to reduce the county's present high infant mortality of 82.9 per 1,000 live births.

The Society's Committee on Syphilis reported that, during 1940, 180 anti-syphilis clinics had been held in the county and over 6,000 injections had been given. Large numbers of patients had been made non-contagious, thus reducing the number of new cases. Dr. J. W. Jackson, Dr. S. K. Ames, and Dr. W. J. Sturgis constitute the Committee but most of the doctors in the county work on this and other Clinic Committees.

The Maternal Welfare Committee reported care of 132 mothers and the delivery of 119 babies under Clinic supervision during 1940. There were no deaths. Members of this Committee are: Dr. J. G. Goode, Dr. J. W. Jackson, and Dr. H. L. Denoon.

The Committee on Medical Preparedness, consisting of Drs. J. E. Gladstone, W. C. Henderson, H. L. Denoon, and J. R. Hamilton, revealed that practically every doctor in the county is giving his services free to the Government in the examination of volunteers and conscripts.

Dr. Griffin W. Holland was elected to succeed himself as Member of the Board of Trustees of the Northampton-Accomack Memorial Hospital, representing the Northampton County Medical Society. He will serve for four years along with Dr. W. J. Sturgis.

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The Society decided to have "Ladies' Night" on April 14, 1941.

Election of Officers for 1941 resulted as follows: President, Dr. S. K. Ames, Cape Charles; Vice-President, Dr. J. R. Hamilton, Nassawadox; Secretary, Dr. W. C. Henderson (re-elected), Nassawadox. Members of the Board of Censors are: Dr. H. L. Denoon, Dr. J. M. Lynch, and Dr. W. T. Green.

W. C. HENDERSON,
Secretary.

Albemarle County Medical Society.

At the recent meeting of this Society Dr. William H. Wood, Jr., for the past two years secretary, succeeded Dr. H. B. Mulholland as president. Other officers are: Vice-President, Dr. G. S. Fitz-Hugh; and Secretary-Treasurer, Dr. E. W. Kirby.

The Arlington County Medical Society

Held its annual meeting on December 19 at the Washington Golf and Country Club. The following were elected officers for 1941: Dr. Henry Louis Bastien, President; Dr. Robert H. Detwiler, Vice-President; and Dr. J. R. B. Hutchinson, Secretary-Treasurer. Dr. Robert Battey Crichton was elective to active membership and Dr. J. Ogle Warfield and Dr. Charles A. Finnigan to associate membership.

James River Medical Society.

Officers of this Society elected for 1941 are: President, Dr. A. C. Whitley, Palmyra; vice-president, Dr. E. B. Nuckols, Cumberland; and secretary-treasurer, Dr. Garland Dyches (re-elected), Dillwyn.

Richmond Academy of Medicine.

Dr. William Branch Porter, new president, announced the following committee appointments when he took office on January 14: *Program*—Drs. William Jordan, James P. Baker, A. Stephens Graham, and James Smith; *Radio*—Drs. Guy Horsley, Douglas Chapman, and B. W. Rawles, Jr.; *Entertainment*—Drs. Ambrose McGee, John Lynch, and John Paul Jones; *Advisory to the Woman's Auxiliary*—Drs. E. H. Williams, William Bickers, and Ernest Alderman; *Publicity*—Drs. Fred Wampler, W. H. Craig, and Ernest Trice; *Advisory to I.V.N.A.*—Drs. M. Pierce Rucker, O. B. Darden, and C. L. Outland.

News Notes

Southeastern Surgical Congress.

The postgraduate surgical assembly of the Southeastern Surgical Congress will be held in Richmond, March 10-12, under the presidency of Dr. Irvin Abell. Dr. Frank Johns, Richmond, is chairman of the local committee on arrangements. Clinics and lectures, covering every branch of surgery, will be given by forty men of national prominence, among them being three from Virginia—Drs. J. M. Emmett, Clifton Forge; Walter B. Martin, Norfolk; and W. L. Peple, Richmond.

For information, write the secretary-treasurer, Dr. B. T. Beasley, 701 Hurt Building, Atlanta, Ga.

Saint Albans Sanatorium.

On January 16, Saint Albans Sanatorium at Radford, completed its 25th year of operation. The Sanatorium was organized by Dr. J. C. King, formerly Superintendent of the Southwestern State Hospital at Marion. During the past twenty-five years, there have been 4,510 new admissions with an average daily population of forty. James P. King became associated with the Sanatorium in 1930 and Frank A. Strickler in 1937.

Aside from the medical work of the Sanatorium, the property has long been of interest because of its original operation as a boy's school. Professor George H. Miles built the School in 1891 and for six years conducted a preparatory academy. The School's alumni include many illustrious citizens. The impetus given the School by Professor Miles was a considerable one as letters of inquiry are occasionally received by the hospital authorities, although the School closed forty years ago.

At the present time nervous and mental cases and alcoholic patients are treated. The Sanatorium is located in Pulaski County, over-looking the town of Radford and New River.

Medical College of Virginia News.

Dr. Walther Riese reported for work at the college as research associate in psychiatry on January

6th A grant for Dr. Riese's work here was made by the Rockefeller Foundation of New York.

Dr. R. D. Hughes, assistant professor of biology in the school of pharmacy, has been called to active duty in the navy. Dr. Hughes' wife will carry on his teaching duties while he is away from the college.

Due to the prevalence of influenza the 14th floor of the new college hospital was opened for patients on January 15th. It is expected the entire hospital will be occupied by February 1st.

Lectures scheduled for the spring months at the college are:

February 28—Alpha Omega Alpha Lectureship, Dr. Fuller Albright, Massachusetts General Hospital, Boston, Massachusetts.

March 14—Phi Beta Pi Lectureship, Dr. Walter E. Vest, Chesapeake and Ohio Hospital, Huntington, West Virginia.

April 24-25—Stuart McGuire Lectures, Dr. Alfred Blalock, Vanderbilt University, Nashville, Tennessee.

The annual spring postgraduate clinics will be held in conjunction with the Stuart McGuire lectures.

Dr. William B. Porter professor of medicine, has been elected president of the Richmond Academy of Medicine.

Brown-Sequard Chapter of Alpha Omega Alpha,

Honor Medical Society at the Medical College of Virginia, will hold an initiation on Friday evening, February 28th, at 7 P. M., at the Commonwealth Club. Prior to the initiation, Dr. Fuller Albright, Assistant Professor of Medicine at the Massachusetts General Hospital, will deliver the annual Brown-Sequard lecture at the Baruch Auditorium at 4 P. M. The subject of his lecture will be "Some Clinical Aspects of Metabolic Bone Diseases". Members of the medical profession are invited to this lecture.

Alumni members of the 1932 Brown-Sequard Society, the first class to petition A. O. A., were the first alumni elected to this fraternity and they are as follows: Drs. L. E. Jarrett and W. L. Nalls, Richmond; R. L. Clark, Jr., Jackson, Miss.; H. G. Byrd, Louisa; P. S. Richards, Butler, N. J.; W. Cardwell, Greensboro, N. C.; L. B. Todd, Quinwood, W. Va.; R. C. Cecil, Rainelle, W. Va.; and M. H. Bland, Norfolk. Members of the 1940 class elected are Drs. Jose Bou Lopez, W. E. Ward and M. J. Hoover, Jr., Richmond; W. E. Vest, Jr., Denver, Col.; A. B. Croom, Philadelphia, Pa.; and A. E. Powell, University of Virginia.

News from University of Virginia, Department of Medicine.

On January 9th, Dr. Byrd S. Leavell spoke before the Fredericksburg Medical Society on the subject of Anemia.

Dr. Oscar Swineford, Jr., participated in the Third Annual Forum on Allergy in Indianapolis. His subject was Asthma and Heart Disease.

Dr. Robert V. Funsten attended the meetings of the American Academy of Orthopedic Surgery in New Orleans from January 12th to 16th. He presented a paper on Experimental Studies in the Use of the U Clamp For Fixation of the Spinous Processes in Fractures of the Spine.

The Jefferson Medical College of Philadelphia.

The William Potter Memorial Lecture was delivered by Henrik Dam, Ph.D., Associate Professor, Biochemical Institute University of Copenhagen, Denmark, on January 10, 1941. His subject was "A Survey of the Present State of Knowledge on Vitamin K".

News from Duke University School of Medicine.

At the beginning of the winter quarter, there were 239 medical students, 66 first year, 65 second year, 65 juniors, and 43 seniors. One hundred and forty pupil nurses were enrolled.

Dr. Laurence H. Snyder, Professor of Medical Genetics at Ohio State University School of Medicine, is giving a series of weekly lectures on Medical Genetics in January, February, and March.

At the meeting of the Duke Medical Society on January 14th, Dr. Tinsley R. Harrison, newly appointed Professor of Medicine at the Bowman Gray School of Medicine of Wake Forest College, spoke on "Hypertension". Dr. Wingate Johnson, Professor of Clinical Medicine at the Bowman Gray School of Medicine of Wake Forest College, discussed the paper.

On November 29th-30th, the Tenth Anniversary of the opening of the School of Medicine and Hospital was celebrated and the new Department of Neuropsychiatry was dedicated. One hundred and

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twenty medical alumni and former members of the house staff were present.

At this time the Duke University School of Medicine Alumni Association was organized with the following officers: J. M. Arena, president, R. W. Graves, vice-president, J. L. Callaway, secretary-treasurer, L. D. Baker, corresponding secretary.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, will hold its fifteenth annual Spring Graduate Course, April 7 to 12. There will be courses in ophthalmology, otology, rhinology, laryngology, facio-maxillary surgery, bronchoscopy and esophagoscopy. All lectures, demonstrations and operations will be given at the hospital, and the round table discussions will be held at the Patrick Henry Hotel immediately following luncheon. The class will be limited to fifty.

Members of the faculty are: Drs. Alfred Cowan and Robert A. Groff, Philadelphia; James H. Maxwell, Ann Arbor, Mich.; Paul M. Moore and A. D. Ruedemann, Cleveland, Ohio; Raymond E. Meek, A. B. Reese, C. R. Straatsma and Arno E. Town, New York City; C. Stewart Nash, Rochester, N. Y.; LeRoy A. Schall and T. L. Terry, Boston, Mass.; Warren T. Vaughan, Richmond; and Frank B. Walsh, Baltimore, Md. Resident members are Drs. E. G. Gill and John E. Alexander.

Full information may be received from the Superintendent, Gill Memorial Eye, Ear and Throat Hospital, Box 2467, Roanoke, Va.

Dr. G. W. Skaggs,

Who has practiced medicine with the Clinchfield Coal Corporation at Dante for the past three years, has returned to his home in Dublin and resumed his practice there.

Dr. Henkel M. Price,

Recently on the staff of Pine Camp Hospital, Richmond, has located in Martinsville, where he will be engaged in industrial and general practice.

Dr. Stanley H. Macht,

Of Crewe, returned there recently and opened an office for general practice. He has received an appointment to the staff of the Southside Community Hospital at Farmville, and has been made chairman of the staffs' program committee. Dr. Macht is a member of the class of '39, University of Virginia, following which he interned at the U. S. Marine Hospital in Norfolk.

Dr. Alex. N. Chaffin,

For sometime located at Galax, is now on the medical staff of Catawba Sanatorium.

National Conference on Medical Service.

The fifteenth annual meeting of the National Conference on Medical Service will be held at the Palmer House, Chicago, on February 16th. Dr. Forrest L. Loveland, Topeka, Kansas, is President and Dr. Harold M. Camp, Monmouth, Illinois, Secretary. Any physician desiring a program may secure it from either of the above officers.

Dr. Herman H. Hines,

Recently of St. Charles, is now Physician to the State Farm, acting in place of Dr. William J. West who is away because of sickness.

Congratulations to Parke, Davis & Company

On seventy-five years of accomplishments! Under the *Miscellaneous Department* in this issue of the MONTHLY is an interesting account of some of their achievements.

One statement not noted in the write-up, however, is the fact that this Company has been advertising in the MONTHLY continuously for over sixty years—a record for constancy. May we continue to work together for the good of the medical profession for many years to come!

Dr. S. K. Livingston,

An alumnus of the University of Virginia, Department of Medicine who has for several years been connected with the Veterans Administration Facility at Hines, Ill., has been transferred to White River Junction, Vermont.

The Red Cross-Harvard Hospital

Is to be set up at an un-named site in southwest England sometime in February, for the study and treatment in England of communicable disease under wartime conditions, and the findings of the staff will be reported to the U. S. Army, Navy and Public Health Service. The hospital will consist of twenty-two buildings of a design developed for modern warfare, and the staff will include seventy-five American doctors, Red Cross nurses and laboratory technicians. Dr. John E. Gordon, professor of preventive medicine and epidemiology in the Harvard Medical School, is to be general director of the combined undertaking.

Syphilis Study.

Charlottesville, Albemarle and Orange Counties are putting on an intensive fight against syphilis and have issued *The Study Bulletin* which is "Devoted to the Fight Against Syphilis". This is chiefly concerned with (1) the finding of new cases of syphilis; (2) the holding of known cases under treatment until they are no longer a menace to the community, and until the maximum benefit from treatment to the individual has been achieved.

Dr. J. Dean Creger,

Recently of St. Paul, has moved to Radford.

Com. Micajah Boland (MC) USN,

Has been transferred from the Naval Training Station at Norfolk to the Receiving Station, Naval Base, Norfolk.

Dr. James N. Williams,

Richmond, has recently been added to the list of Virginia physicians who have passed the American Board of Psychiatry and Neurology. He is now director of the mental hygiene clinic of the State Department of Public Welfare.

Petersburg Hospital Staff.

Officers of the Petersburg Hospital Staff have been re-elected for another term, as follows: President, Dr. Meade Edmunds; Vice-President, Dr. George Reese; Secretary, Dr. Hyman Cantor; and Vice-Secretary Dr. Munford Yates. Dr. Herbert C. Jones was re-named a member of the medical committee and Dr. J. E. Hamner was elected a new member of the chart committee. Others elected were: Dr. Yates, medical section chairman; Dr. W. B. McIlwaine, medical section secretary; Dr. Reese, surgical section chairman; Dr. Cantor surgical section secretary; Dr. Hilmar Schmidt, X-ray section chairman; and Dr. D. D. Willcox, eye, ear, nose and throat section chairman.

Dr. Edwin D. Vaughan

Was recently appointed a member of the membership and classification committee of the Ashland Kiwanis Club.

Married.

Dr. John Warren Montague, Richmond, and Miss Mary Adelaide Walton, Morganton, N. C., January 4. Dr. Montague received his medical degree from the University of Virginia in 1939, and is now a member of the resident house staff of the Medical College of Virginia hospitals.

Dr. W. Calhoun Stirling

Of Washington, D. C., was the guest speaker before the annual meeting of the Tennessee Valley Postgraduate Medical Assembly at Knoxville, Tenn., in October. The title of his paper was "Clinical Significance of Hematuria" and "Sulfathiazole in Infections of the Urinary Tract and in General Septicemia". He also was invited to participate in the symposium on "Malignancies of the Kidney and Ureter" at the annual meeting of the American College of Surgeons which met in Chicago, later that month.

Wanted—

Experienced man as assistant resident; large traumatic and fracture service; American, Class-A school; personal interview; salary commensurate with position; state race, religion, and nationality. Address "Assistant Resident", care this journal, 1200 East Clay Street, Richmond. (*Adv.*)

For Sale—

G. E. shock-proof, mounted or bed-side unit x-ray machine of late model F-2. Recently factory inspected and o.k'd. Has been used less than one year. Consists of foot switch, hand timer, fluoroscope, and mobile stand. Cost $645, but will sell for $400. Reason for selling—have two machines. Picture sent on request. Dr. W. B. Barton, Stonega, Va. (*Adv.*)

Wanted—

Physician. Perferably young man who has had some experience in psychiatry or who wishes to enter this field; to associate in psychiatric work in nervous and mental private hospital. An attractive position with opportunity if he succeeds in the work. Address BXY care of this JOURNAL.

Obituary Record

Dr. Paul Brandon Barringer,

Prominent physician and ex-president of the Medical Society of Virginia, died at his home in Charlottesville on January 9, after a long illness. He was a native of North Carolina and eighty-three years of age. In 1877, Dr. Barringer received his medical degree from the University of Virginia, and the following year was granted the supplemental de-

gree of doctor of medicine from the University of New York. After several years of practice outside of the State, he was called to the University of Virginia in 1888 to the chair of physiology. Dr. Harringer was chairman of the faculty of the University from 1895 to 1903 and was superintendent of the first hospital building which was completed in 1901, being largely responsibile for the raising of funds for this building. In 1907, he left the University to become president of the Virginia Polytechnic Institute where he served until 1912. Returning to Charlottesville, he gave his attention largely to work as a publicist, especially in connection with Negro problems and the agricultural problems of the South. In 1933, Dr. Barringer was elected the second honorary president of the University of Virginia Alumni Association and he was chosen to deliver the centennial address before this association when it celebrated its 100th anniversary in 1938. He was a member of many medical and scientific organizations. Dr. Barringer had been a member of the Medical Society of Virginia for fifty years and served as its president in 1906-7. His wife, four sons, and three daughters survive him.

Dr. Karl Sigismund Blackwell,

Widely known Richmond physician, died December 26, following a heart attack the day before. He was born in Charlottesville in 1879 and graduated from the former University College of Medicine, Richmond, in 1906. Dr. Blackwell began the practice of medicine in Richmond, specializing in diseases of the eye, ear, nose and throat, and had been on the faculty of the Medical College of Virginia since that time, later becoming professor of otolaryngology, a position he held at the time of his death. Dr. Blackwell had taken a prominent part in civic and religious affairs and had served for a number of years as President of the Y. M. C. A. He was a member of Kappa Alpha and Pi Mu fraternities and a past president of the Richmond Academy of Medicine. He had also been a member of the Medical Society of Virginia since 1908 and served as one of its vice-presidents in 1939-40. His wife, two sons and a daughter survive him.

Dr. Prentiss Dupuy Johnston,

Prominent physician of Tazewell, died January 3rd, following a paralytic stroke. He was a native of Goochland Court House and sixty-two years of age. Dr. Johnston graduated from the Medical College of Virginia in 1906, and, after a few years' practice at Pocahontas, located in Tazewell. He was president of the Tazewell Rotary Club and had also served as chairman of its crippled children's committee. Dr. Johnston was medical examiner for the county draft board during the conscription for the World War, and, upon the operation of the selective service act in October, was named to serve again. He had been a member of the Medical Society of Virginia since 1906. His wife, two daughters and a son survive him. One daughter, Dr. Mary Elizabeth Johnston, had been in partnership with him for the past three years.

Dr. Francis Lee Thurman,

Prominent physician of Buena Vista, died January 19. He was seventy-four years of age and received his medical degree from the University of Virginia in 1894. Before locating in Buena Vista, Dr. Thurman practiced for twenty-three years at Keswick in Albemarle County. He was chairman of the Buena Vista Board of Health, a member of the City Council and the Rotary Club, and a former president of the Rockbridge County Medical Society. Dr. Thurman was an authority on old families and homes in Virginia and wrote many articles on these subjects. He was an ardent sportsman and was for some years secretary-treasurer of the Keswick Hunt Club and at one time was master of hounds. Dr. Thurman joined the Medical Society of Virginia in 1897.

Dr. Daniel Warwick Harmon,

Colonel, M. C., U. S. A., Hot Springs National Park, Ark., died November 8, at the age of sixty. He was a graduate in medicine of the University of Virginia in 1903.

Dr. Franklin Pierce,

Former representative in the General Assembly from Nansemond and Isle of Wight Counties, but for the past twenty years of Norfolk, died January 18, after a long illness. He was eighty-six years of age and a graduate in medicine from the College of Physicians and Surgeons of Baltimore in 1875. A son and daughter survive him.

Dr. Paul Nicholas Leech,

Secretary of the Council on Pharmacy and Chemistry of the American Medical Association, died January 14, at the age of fifty-one.